

BOWEN UNIVERSITY, IWO
FACULTY OF SOCIAL AND MANAGEMENT SCIENCES
DEPARTMENT OF ECONOMICS
2018/2019 FIRST SEMESTER EXAMINATION

COURSE CODE: ECN 124 COURSE TITLE: INTRODUCTORY MATHEMATICS FOR ECONOMISTS II
 TIME ALLOWED: 2½ hours

COURSE CREDIT: 3

INSTRUCTIONS: Answer any four questions.

1. (a) i if $9^x = 27$ 4mks
 ii $24^{x+2} = 48^x$ 5.5mks
 Find x
- (b) Evaluate the following:
 - i. $23x^8 \times 12x^{14}$ 4mks
 - ii. $3^{24} \div 3^9$ 4mks
2. (a) Find A^T , if $A = \begin{pmatrix} 2 & 4 & 3 \\ 1 & 1 & 2 \\ 3 & 5 & 7 \end{pmatrix}$ 7.5mks
- (b) Find $|A|$ 10mks
3. (a) $A = \begin{pmatrix} 2 & 1 & 7 \\ 4 & 2 & 3 \\ 1 & 2 & 4 \end{pmatrix}$ $B = \begin{pmatrix} 3 & 2 & 4 \\ 1 & 1 & 3 \\ 2 & 1 & 4 \end{pmatrix}$
 - i. Find $A + B$ 4mks
 - ii. Find $A - B$ 4mks
 - iii. Find the inverse of matrix A 9.5mks
4. (a) $2x + 3y = 4$
 $3x + 6y = 8$ 8.75mks
- (b) $x + y = 5$
 $2x + 3y = 6$ 8.75mks
 Determine x and y
5. (a) $Y = 2x^3 + 35x^4$ 5.5mks
 (b) $Y = 2x^0$ 4mks
 (c) $Y = 3x^5 + 4x^6$ 4mks
 (d) $Y = 4x^7 - 3x^2$ 4mks
 Find $\frac{dy}{dx}$
6. (a) Explain five reasons for the use of mathematics in economics. 10mks
 (b) Find the inverse of the following matrix 7.5mks
 $B = \begin{pmatrix} 3 & 7 & 1 \\ 2 & 4 & 3 \\ 2 & 1 & 5 \end{pmatrix}$