Tanta University – Faculty of Commerce – First Semester- 26/1/2022 Second level - BIS Program Total Time allowed: 2 hours

Final Exam: Business Mathematics

ملحوظة مهمة جدا: يجب الإجابة حسب ترتيب الأسئلة وكتابة تفاصيل الإجابة كاملة داخل ورقة الإجابة

ANSWER ALL THE FOLLOWING QUESTIONS

Question 1 (20 MARKS)

- 1- Toni invests \$20,000 for 3 years at 10%. Find the amount if:
 - a. Money is compounded quarterly.
 - b. Money is compounded monthly.
 - c. Money is compounded daily (use 360 days/year).
- 2- What annual rate of interest, compounded quarterly, would be required if an initial investment of \$3000 is to amount to \$3500 after 5 years?
- 3- What effective interest rate is equivalent to a nominal rate of 12% compounded (a) monthly and (b) daily?
- 4- If Edna owes \$200 in 2 years and a further \$300 in 5 years, how much does she need to pay at present to account for these debts? (Assume 8% compounding quarterly).

Question 2 (30 MARKS)

- 1- Reid David made annual deposits of \$1000 to Fleet Bank, which pays 6% interest compounded annually. After 4 years, Ried makes no more deposits. What will be the balance in the account 10 years after the last deposit is made?
- 2- Jake rents out a building to an accounting practice. The lease arrangement is for 10 years. Every three months Jake receives \$10,000 in rent. Payments are made upfront. This money goes into an account earning 7% p.a. compounded quarterly. What will be the value of the account at the end of the 10-year lease arrangement if Jake never withdraws from it.
- 3- A debt of \$ 1,000,000 is to be amortized by equal payments at the end of each month for 20 years. If the interest charged is 12% compounded monthly. Construct the amortization schedule showing the following periods: 1, 2, 100, 101, & 240.

With my best wishes