



كلية تكنولوجيا الصناعة والطاقة

Information Technology Department
2nd Year



جامعة برج العرب التكنولوجية
BORG AL ARAB TECHNOLOGICAL UNIVERSITY

جامعة برج العرب التكنولوجية

Course: Digital Engineering Semester: 1 st term 2025/2026.	Lecturers: Dr. Osama Elnahas, Dr. Dina Abdelhafiz, Dr. Bassant Tolba, Dr. Radwa Rady Assistants:
Tutorial 5: K-maps	

Q1: Simplify the following 3-variable Boolean function in SOP form using K-Map.
 $F(P,Q,R) = \sum m(0,1,3,5,7)$

Q2: Simplify the following 3-variable Boolean function in POS form using K-Map.
 $F(A,B,C) = \prod M(1,2,4,6)$

Q3: Simplify the following Boolean functions, using three-variable K-maps:
 $F(x,y,z) = \sum(0,2,4,5,6)$

Q4: Simplify the following Boolean functions, using three-variable K-maps:
 $F(x,y,z) = \sum(0,1,2,3,5)$

Q5: Simplify the following Boolean functions, using three-variable K-maps:
 $F(x,y,z) = \sum(1,2,3,7)$

Q6: Simplify the following Boolean functions, using three-variable K-maps:
 $F(x,y,z) = \sum(0,2,4,6)$

Q7: Simplify the following Boolean functions, using three-variable K-maps:
 $F(x,y,z) = \prod(3, 5, 7)$