

**MATHEMATICS 112  
FINAL EXAM TOPIC LIST**

MARKS (total 75)

- (4) 1. ESTABLISH THE LOGICAL EQUIVALENCE OF TWO COMPOUND PROPOSITIONS USING A TRUTH TABLE (THREE PRIME PROPOSITIONS)
- (3) 2. TEST THE VALIDITY OF AN ARGUMENT USING A TRUTH TABLE  
or  
VERIFY A VALID ARGUMENT USING VALID ARGUMENT FORMS
- (4) 3. COUNTING THE ELEMENTS IN A SET: AN APPLICATION REQUIRING THE USE OF AN APPROPRIATE VENN DIAGRAM (THREE SETS)
- (4) 4. MULTIPLICATION PRINCIPLE
- (5) 5. PERMUTATIONS AND/OR COMBINATIONS
- (5) 6. PERMUTATIONS AND/OR COMBINATIONS
- (2) 7. PERMUTATIONS AND/OR COMBINATIONS
- (7) 8. USE OF COUNTING TECHNIQUES IN PROBABILITY
- (2) 9. "BIRTHDAY PROBLEM" TYPE PROBLEM
- (8) 10. VENN DIAGRAM AND PROBABILITIES: CONDITIONAL PROBABILITIES, TEST FOR INDEPENDENCE
- (4) 11. PROBABILITIES INVOLVING INDEPENDENT EVENTS
- (6) 12. CONDITIONAL PROBABILITIES AND TREE DIAGRAMS
- (7) 13. PROBABILITY DISTRIBUTION OF A RANDOM VARIABLE, HISTOGRAM, CALCULATION OF THE MEAN, VARIANCE, AND STANDARD DEVIATION
- (4) 14. BINOMIAL DISTRIBUTION
- (4) 15. NORMAL DISTRIBUTION (GIVEN THE SCORE / FIND THE PROBABILITY)
- (2) 16. NORMAL DISTRIBUTION (GIVEN THE PROBABILITY / FIND THE SCORE)
- (4) 17. APPROXIMATION OF A BINOMIAL DISTRIBUTION BY AN APPROPRIATE NORMAL DISTRIBUTION

**GOOD LUCK!**