Department of Mathematics
MTL 106 (Introduction to Probability and Stochastic Processes)
Tutorial Sheet No. 1
Answer for selected Problems

2. No

3. 0, 1

5. a) T b) F c) T d) F e) F (f) T

6. $\dfrac{6\times 4\times 2}{6\times 6\times 6}=\dfrac{2}{9}$

7. a) $\dfrac{[\frac{N}{3}]+[\frac{N}{4}]-[\frac{N}{12}]}{N}$ where [ ] =greatest integer function b) $\dfrac{1}{2}$

8. $\frac{1}{4}$

10. A, B, C are pairwise as well as mutually independent

11. $p_0+p_1\ p_0+p_2\ (p_0)^2$

12. $\frac{30}{61}$

13. $\frac{40!\times\ ^{41}P_4}{44!}$

14. $2\times(0.5)^4$

15. $\frac{43}{216}, \frac{173}{216}$

16. (a) $\frac{1}{2}$ (b) $\frac{1}{7}$

17. $a) R^4+\ ^4C_3R^3(1-R)+\ ^4C_2R^2(1-R)^2$
$b) R^4++\ ^4C_3R^3(1-R)+\ ^2C_1R(1-R)\times\ ^2C_1R(1-R)$

18. $\frac{1}{2}$

19. $p^4+4p^3q+2p^2q^2$

20. $\frac{b}{b+r+c}$

21. $\frac{1}{2}(1+\ln 2)$

22. $\frac{2}{9}\ln 2+\frac{1}{3}$

23. $\frac{^{(N-D)}C_n}{^NC_n}$