

TUGAS STATISTIK DAN PROBABILITAS

- 1** Twelve per cent of a type of plastic bushes are rejects. Determine:
 - (a) the probability that any one item drawn at random is
 - (i) defective
 - (ii) acceptable
 - (b) the number of acceptable bushes likely to be found in a sample batch of 4000.
- 2** A box contains 12 transistors of type *A* and 18 of type *B*, all identical in appearance. If one transistor is taken at random, tested and returned to the box, and a second transistor then treated in the same manner, determine the probability that:
 - (a) the first is type *A* and the second type *B*
 - (b) both are type *A*
 - (c) neither is type *A*.
- 3** A packet contains 100 washers, 24 of which are brass, 36 copper and the remainder steel. One washer is taken at random, retained, and a second washer similarly drawn. Determine the probability that:
 - (a) both washers are steel
 - (b) the first is brass and the second copper
 - (c) one is brass and one is steel.
- 4** A large stock of resistors is known to have 20 per cent defectives. If 5 resistors are drawn at random, determine:
 - (a) the probabilities that
 - (i) none is defective
 - (ii) at least two are defective
 - (b) the mean and standard deviation of the distribution of defects.
- 5** A firm, on average, receives 4 enquiries per week relating to its new product. Determine the probability that the number of enquiries in any one week will be:
 - (a) none
 - (b) two
 - (c) 3 or more.
- 6** A machine delivers rods having a mean length of 18.0 mm and a standard deviation of 1.33 mm. If the lengths are normally distributed, determine the number of rods between 16.0 mm and 19.0 mm long likely to occur in a run of 300.