

IY5512: Coursework 1

If feedback is required, coursework solutions must be submitted electronically via the course Moodle page. The deadline for receipt of submissions is 23:59 UK time on Friday 16/10/15.

Coursework submissions should normally be in the form of a single pdf file. If you use Word, a free add-on to enable you to save a document in pdf format can be obtained from the Microsoft web site.

Take care to ensure that you include your full name on the first page of your submission, the course number (IY5512), and the coursework number.

These questions are designed to test and extend your understanding of Part 1 of the course material.

1. Define the notions of a mandatory security policy and a discretionary security policy.
2. Briefly define the notions of vulnerability, exploit and impact.
3. Describe one way of computing the **impact** (loss expectancy) of a threat as a value (in a currency of your choice), where impact combines the seriousness of a threat with the likelihood of it being realised. You may suppose that you have some idea of the cost to your organisation if the threat is realised, and also that you have an estimate for the probability of threat realisation.
4. How might a financial estimate for threat impact be used to decide whether or not to implement a countermeasure to the threat? What shortcomings are there in taking a purely numerical approach to risk management?
5. Accountability requires every action to be assignable to a single individual. Privacy requires that some actions can be made in an anonymity-preserving way. Are these notions irreconcilable?
6. The Reference Monitor is responsible for deciding whether a 'subject' is permitted to access an 'object'. The decision of the Reference Monitor will be made based on three main categories of input information. What are they?
7. Give an advantage and a disadvantage (**from a security or privacy perspective**) for an organisation of switching from in-house IT provision to use of a cloud service.