

MEng (Engineering) Examination 2017

Year 1

**AE1-116 Management and Business for
Aeronautical Engineers**

**Tuesday 17th January 2017: 10.00 to 12.00
[2 hours]**

There are **SIX** questions.
Full marks may be obtained by complete answers
to any **THREE** questions.
All questions carry the same weight.
Do **NOT** attempt more than three questions.

Credit will be given for the use of relevant industrial examples.

The use of lecture notes is NOT allowed.

1. Critically assess, using relevant examples, the long-term impact of F.W. Taylor's work on two production techniques. [100%]
2. Compare and contrast the ideas of Abraham Maslow on how managers seek to motivate workers, with the work of other relevant commentators. [100%]
3. Identify the key advantages and disadvantages of bureaucracy and discuss how they might relate to McDonald's. [100%]
4. Assess, using relevant examples, the importance of brands in modern marketing. [100%]
5. 'Leadership is the most significant factor in the management of change'. Discuss this statement taking into account the work of relevant commentators. [100%]
6. What are Geert Hofstede's four dimensions of management? How can they help to assess the suitability of management techniques to various national contexts? [100%]

Course Code and Title **(Required)**: AE1-116 Management and Business for Aeronautical Engineers

Setter **(Required)**: Dr Stuart Peters

Write on this side only (in ink) between the margins, not more than one solution per sheet please. Solutions must be signed and dated by both exam setter and referee.

Marks

1. Initially, candidates are required to address the pros and cons of scientific management, the highly influential theory developed by Frederick Winslow Taylor. Following on from this, they are then required to discuss why Ford adopted scientific management for its system of *mass production* and then later why Toyota 'reformed' the Fordist template to devise its own system of *lean production*. Scientific management still remains enormously influential to this day.

100%

2. Candidates need to explain what Maslow's hierarchy of needs theory is about and then link this to the respective works by Frederick Herzberg (hygiene theory), BK Skinner (operant conditioning theory) and Edwin Locke (goal setting theory). Candidates should draw their own conclusions on the credibility/ soundness of the various arguments.

100%

3. Candidates need to discuss, in particular, the theories of Weber & Mintzberg on bureaucracy and then link these with the ideas of Schumacher and the McDonaldisation of Society. According to Schumacher, McDonalds exhibits a number of important characteristics of a bureaucracy with major implications.

100%

4. Candidates need to demonstrate a good understanding that (big) brands in modern marketing are very important. BUT, brands are built as a result of a good/clever strategy. Any strategy will often include aspects of innovation, market segmentation and product mix. A well known example is Apple.

100%

5. Candidates need to show a good understanding of why organisations change. There are several factors such as this, for example, globalisation, competition, new technology, but change is often far from easy to instigate, yet alone implement. Here is where leadership comes in. Success or failure in organisational change often hinges on the type of leadership being offered (refer to work of Charles Handy). The picture is even further complicated by the changing pattern of employment (also refer to Handy). Candidates need to draw their own conclusions based on the strengths and weaknesses of the various arguments.

100%

6. Candidates need to describe Hofstede's four dimensions of management:-

100%

- Power/distance – related to how a society handled inequalities and demonstrated the extent to which a given society accepted that power in institutions was unequally distributed.
- Uncertainty avoidance – related to the ease with which the culture coped with novelty.
- Individualism – related to the extent to which a culture encouraged individual as opposed to collectivist, group-centred issues.
- Masculinity – related to what Hofstede characterised as 'masculine' as opposed to 'feminine' cultures.

The typology developed whereby some forty national cultures were positioned from high to low on each of four scales or dimensions, thereby generating a distinctive profile.

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By deploying his typology Hofstede was able to develop a cultural map which could be used as guide to judge the suitability of various management ideas or techniques in a particular national context. Although his approach is open to criticism in that it tends to perpetuate national stereotyping, it nevertheless serves to highlight cultural differences in a world often characterised as a 'global village'. Multinational and transnational corporations are constantly challenged to sustain unity out of diversity and awareness of differing cultures is self-evidently essential to this process.