

National Exams December 2015
11-CS-4 Engineering Management
3 hours duration

Notes:

1. If doubt exists as to the interpretation of any question, the candidate is urged to submit with the answer paper, a clear statement of any assumptions made.
2. This is a Closed Book exam. No calculators are allowed for this exam.
3. Any five questions constitute a complete paper. Only the first five questions as they appear in your answer book will be marked.
4. All questions are of equal value.
5. Write your answers in point-form whenever possible, but fully.

Marking Scheme (marks)

1. (i) 7, (ii) 7, (iii) 6
2. (i) 6, (ii) 7, (iii) 7
3. (i) 7, (ii) 7, (iii) 6
4. (i) 6, (ii) 7, (iii) 7
5. (i) 7, (ii) 6, (iii) 7
6. (i) 7, (ii) 6, (iii) 7
7. (i) 7, (ii) 6, (iii) 7

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1. (i) What is the purpose of trend analysis? State the major forces that influence trends.
(ii) Explain briefly the characteristics of the following forecasting models: (a) time series models, (b) moving average and (c) exponential smoothing.
(iii) State the questions generally asked in conducting technology assessment or audit.
2. (i) State the characteristics a change leader should possess to manage change successfully.
(ii) What guidelines should be followed to create an environment of change in a company?
(iii) Explain the factors that contribute resistance to change in a company.
3. (i) State the benefits of customer feedback. What measures are taken to gauge customer satisfaction?
(ii) State the business requirements necessary to address changing customer requirements.
(iii) What are the basic elements of total quality management.
4. (i) State the primary funding sources available for financing engineering projects.
(ii) State the alternative funding sources available for financing projects.
(iii) What are the key components of a business plan.
5. (i) State your understanding of Chris Argyri's common classical organization concept.
(ii) Explain McClland's achievement-affiliation concepts dealing with need to achieve.
(iii) What is your understanding of Lickert's concept of the characteristics of high and low producing organizations?
6. (i) State the characteristics of traditional organizational structure.
(ii) What is your understanding of systems thinking and in particular Metanoia - a shift of mind.
(iii) State the strategies used for effective leadership.

7. An internationally recognized author has noted that of your manager want high performance from your employees, look first at the atmosphere in your company before you start thinking about “changing each individual employee”. The author further noted that most firms create a “stifling atmosphere in which employees feel constrained, controlled and forced to comply with a rigid contract that govern their behavior”. Now that “information, knowledge and expertise” have become just as importance as capital in the past, emphasis has shifted from the corporation to the individual.
- (i) Do you find it surprising that senior executives have to be reminded of these things? How come they are not already aware of this issue since it has been actively discussed in business schools and business periodicals for some years?
 - (ii) Why are companies so slow to adapt to new conditions? Don't they want a better motivated workforce?
 - (iii) is it possible that corporations concentration on downsizing in recent years has blinded them to the changes needs of their remaining employees and managers?