



PhD in Engineering Management Admission Test Fall 2022 (Sample Paper)

Name: _____

Applicant ID: _____

INSTRUCTIONS

Max. Marks: 100

Time Allowed: 1.5 Hours

1. The paper comprises five sections with a total of 100 questions
2. There will be 100 questions in this admission test and for each question; four possible choices will be given.
3. You will be required to choose the most appropriate answer to the given question by filling the appropriate circle (only ONE) on the answer sheet.
4. Questions with more than one circles filled, will not be graded.
5. **ANSWER SHEET IS ATTACHED BY THE END OF QUESTION PAPER. DO NOT USE QUESTION PAPER FOR THIS PUPOSE, YOU WOULD NOT BE GRADED.**
6. You will be provided a rough work sheet which may be detached from the question paper for convenience but must be handed back to the supervisory staff on exam closure.
7. Please pay attention to the instructor when instructions are being given.
8. Talking, whispering and glancing either ways is strictly prohibited.
9. The instructor will tell you when to start and finish. Please listen carefully.
10. Any violation or ignorance of the instructions will disqualify you from the test.

“Good Luck”

(SECTION A)
Total Quality Management

1. The objective of ISO-9000 family of Quality management is
 - a. Customer satisfaction
 - b. Employee satisfaction
 - c. Skill enhancement
 - d. Environmental issues

2. Total Quality Management (TQM) focuses on
 - a. Employee
 - b. Customer
 - c. Both (a) and (b)
 - d. None of the above

3. Which of the following is responsible for quality objective?
 - a. Top level management
 - b. Middle level management
 - c. Frontline management
 - d. All of the above

(SECTION B)
Technology Management

1. Basically governed technology, structure followed in the form of
 - a. non-organic
 - b. Mechanistic
 - c. Organic
 - d. Non-formalized
 - e. Decentralized

2. The structure followed by a non-routine technology is said to be
 - a. in-organic
 - b. Mechanistic
 - c. Formalized
 - d. Decentralized

3. The boundary roles of product organizations are known as
 - a. Moderate
 - b. Alternative
 - c. Constant
 - d. Many

(SECTION C)
Engineering Project Management

1. The ongoing definition of a project as more information becomes available to the team is called:
 - a. Scope validation
 - b. Strategic planning
 - c. Progressive elaboration
 - d. Quantitative elaboration

2. Experience shows that each time you double the production of doors, unit costs decrease by 10 percent. Based on this, the company determines that production of 3,000 doors should cost \$21,000. This case illustrates:
 - a. Learning cycle
 - b. Law of diminishing returns
 - c. 80/ 20 rule
 - d. Parametric cost estimation

3. The seller on the project has presented the project manager with a formal notification that the seller has been damaged by the buyer's activities. The claims that the buyer's slow response to requested approvals has delayed the project and has caused the seller unexpected expense. The first things the project manager should do are:
 - a. Collect all relevant data, send the data to the company attorney, and consult with the attorney about legal actions.
 - b. Review the contract for specific agreed-upon terms that relate to the issue, see if there is a due response, and consult an attorney if needed.
 - c. Review the procurement statement of work for requirements, send a receipt of claim response, and meet to resolve the issue without resorting to legal action if possible.
 - d. Hold meeting with the team to review why the acceptances have been late, make a list other reasons, and correct those reasons.

(SECTION D)
Financial Management for Technical Managers

1. The rate on six-month T-bills is currently 5%. ABC Company's stock has a beta of 1.69 and a required rate of return of 15.5%. According to the CAPM, what is the return on the market? (Marks#2.5)
 - a. about 11.2%

- b. about 11.6%
 - c. about 11.9%
 - d. none of these
2. The balance in the owner's capital account of Park Lane Company at the beginning of the year was PKR65,000. During the year the company earned revenue of PKR 430,000 and incurred expenses of PKR 360,000, the owner withdrew PKR 50,000 in assets, and the balance of the cash account increased by PKR 10,000. At year-end, the company's net income and the year-end balance in the owner's capital account were, respectively: (Marks#2.5)
- a. PKR 20,000 and PKR 95,000
 - b. PKR 70,000 and PKR 95,000
 - c. PKR 60,000 and PKR 75,000
 - d. PKR 70,000 and PKR 85,000
3. A negative NPV indicates that a project has a(n): (Marks#2.5)
- e. a. IRR less than the cost of capital.
 - f. b. profitability index greater than 1.
 - g. c. MIRR more than the discount rate.
 - h. d. both b and c.
4. Operating leverage is the relative mix of fixed versus variable costs in the process used to produce a product or service. Which of the following statements is true? (Marks#2.5)
- a. A decrease in the variable cost per unit creates an increase in the contribution margin (which is the selling price minus the variable costs).
 - b. Operating leverage is generally unique for each investment rather than identical for all the firm's investments.
 - c. Operating leverage affects the total risk of the capital budgeting project, both diversifiable and non-diversifiable risk. Because it affects non diversifiable risk, it also affects both the beta and the project's cost of capital.
 - d. all of these

(SECTION E)

Research Methodology for Engineering Managers

1. Of the following, qualitative research is best suited for:
- a. generalizing findings to other settings
 - b. describing participants and contexts
 - c. making inferences from samples to the population
 - d. using statistics to interpret the data

2. Cross-checking data obtained in different ways and/or from different sources is referred to as:
 - a. documentation
 - b. norming
 - c. synthesis
 - d. triangulation

3. Fieldwork typically involves any of the following data collection strategies except:
 - a. collection of documents
 - b. participant observation
 - c. posttest administration
 - d. unstructured interviews