

机械与动力工程学院博士生资格考试笔试大纲

Syllabus of Ph.D. Qualification Examination (SJTU-ME)

*笔试主题 Exam Topic	(中文) 工业工程综合(1、质量管理学)
	(English) Industrial Engineering(Part I. Quality Management)
*考核形式 Exam Format	闭卷考试, 0.5 小时 Closed-book exam, 0.5 hour
*考核目标 Exam Target	<p>考察学生对高等质量管理学重要概念的深入理解, 主要数学模型与求解方法的原理与应用, 以及不同类型的问题和方法的特点与横向比较。</p> <p>To test students' understanding of the concepts, application of mathematical models and solution methods of Quality Management, and the characteristics and comparison of different types of problems.</p>
*考核内容 Exam Contents	<ol style="list-style-type: none"> 1. 统计过程控制图概论与休哈特控制图 2. 控制图设计与优化 3. CUSUM 与 EWMA 控制图 4. 量具和测量系统分析 5. 多元统计学基础和多元控制图 <ol style="list-style-type: none"> 1. Introduction to statistical process control chart and Shewhart control chart 2. Control chart design and optimization 3. CUSUM and EWMA control diagram 4. Analysis of measuring tools and measuring system 5. Multivariate statistical basis and multivariate control chart
*参考书目 References	<ol style="list-style-type: none"> 1. Introduction to Statistical Quality Control. Douglas C. Montgomery. Wiley; 7 edition. (2013), ISBN-10: 1118146816, ISBN-13: 978-1118146811. 2. Introduction to Statistical Process Control, Qiu, Peihua, CRC Press, 2013. ISBN: 9781439847992, 9781482220414
备注 Notes	

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Syllabus of Ph.D. Qualification Examination (SJTU-ME)

*笔试主题 Exam Topic	(中文) 工业工程综合(2、生产计划与控制) (English) Industrial Engineering(Part II. Production Planning and Control)
*考核形式 Exam Format	闭卷考试, 0.5 小时 Closed-book exam, 0.5 hour
*考核目标 Exam Target	考察学生对生产计划与控制的重要概念的深入理解, 主要数学模型与求解方法的原理与应用, 以及不同类型的问题和方法的特点与横向比较。 To test students' understanding of the concepts, application of mathematical models and solution methods of Production Planning and Control, and the characteristics and comparison of different types of problems.
*考核内容 Exam Contents	<ol style="list-style-type: none"> 1. 需求预测技术与方法 2. 确定性需求的库存管理 3. 不确定需求的库存管理 4. 生产系统调度控制 5. 随机生产系统的建模分析 <ol style="list-style-type: none"> 1. Demand forecasting 2. Inventory control under determined demand 3. Inventory control under stochastic demand 4. Control and scheduling of production system 5. Stochastic production system analysis
*参考书目 References	<ol style="list-style-type: none"> 1. <Production and Operations Analysis>生产与运作分析, 作者: [美]Steven Nahmias 出版者: 清华大学出版社 2. Production system Engineering 生产系统工程, 作者: (美)李京山 (Jingshan Li) 等, 2012, 北京理工大学出版社
备注 Notes	