

Exam preparation Production Planning & Quality Control (2014)

- Closed book, no books allowed, also no English or other dictionaries allowed
- Open questions (no multiple choice)
- Questions:
 - i. Knowledge
 - ii. Interpretation of lecture material, analysis
 - iii. One or more calculations. Formulas will be provided.
- Exam material:
 - Nicholas chapters as discussed during lectures (see lecture schedule for chapters)
 - All documents on the PPQC Nestor site under Slides
 - The lecture slides indicate the most important topics
- Important: please be precise, complete and concise in your answers. When a description is asked, or the difference between two aspects (e.g. What is the difference between Push and Pull Production?) be accurate/precise in your descriptions.
- Make sure that you pay sufficient attention to your argumentation / explanation. If you make assumptions, for example in calculations, please mention them explicitly.
- When calculations are required, the formulas will be provided.
- The exam will be in English. You are also required to answer in English.
- Regular FEB exam rules will apply (e.g. no toilet visits).

Example exam questions:

- Questions from the PPQC assignments
- Other examples of exam questions:

1. Principles of Lean Production

- a. (i) What does the abbreviation SMED represent? (ii) Describe the steps in SMED.
- b. (i) Describe the (most important) difference between pull production en push production (ii) In which ways does pull production reduce waste? (iii) Is it necessary to carry stock in a pull system? Please provide sufficient arguments / explanation in your answers.
- c. According to Toyota, having stock is very disadvantageous. Please provide three reasons for this.
- d. What is Statistical Process Control (SPC)? Describe in your answer at least (i) the principles of SPC, (ii) an example of a visualisation used in SPC.

2. Group Production

a. Describe four possible advantages of group production over a functional lay-out. Provide sufficient argumentation (what are the causes/reasons for the advantages?).

b. <Short case descriptions can be included in the exam. Example: a short version of the Assignment Group Production>

(i) Apply Binary Ordering.

(ii) Propose a group lay-out based on your answer to question (i). Describe which problems you see in the formation of the groups, how you propose to overcome them and which assumptions you have made. Provide sufficient argumentation / explanation with your proposal.

c. Do you think it is a good idea for this company to choose for a group production lay-out? Provide sufficient argumentation/ explanation with your answer.

3. Maintenance management

a. Describe the following types of maintenance such that the differences and/or commonalities these types become clear:

(i) Breakdown repair

(ii) Preventive Maintenance

(iii) Predictive Maintenance

(iv) Condition-based Maintenance

(v) Total Productive Maintenance

b. <Case description. Example: a short version of the Assignment Maintenance Management>

Calculate the OEE.

<De formulas will be provided>

c. Describe for this case three possibilities to increase the OEE and explain how these improvements could be carried out by applying the principles of Total Production Maintenance and/or Lean Production.