



**FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT
EXAM**

DEPARTMENT : **QUALITY AND OPERATIONS MANAGEMENT**
MODULE : **OPERATIONS MANAGEMENT 1B**
CODE : **BPJ1BOO/BPJ1BY1**
DATE : **05 DECEMBER 2016**
DURATION : **3 HOURS**
TIME : **08:30 – 11:30**
TOTAL MARKS : **100**

EXAMINER : **MS K MUSHAVHANAMADI**

INTERNAL MODERATOR: **MR N MADONSELA**

NUMBER OF PAGES : **3 PAGES**

INSTRUCTIONS TO CANDIDATES:

- Answer ALL questions.
- This is a closed book assessment.
- Leave margins and spaces between the questions.
- Show all your calculations.
- Unless otherwise indicated, express your answers correctly to two (2) decimal places.
- Where appropriate, indicate the units of your answer. (e.g. Hour, R)
- Write neatly and legibly
- NOTE: Marks will be awarded for theoretical knowledge, application of the theory and use of relevant examples.
- The general University of Johannesburg policies, procedures and rules pertaining to written assessments apply to this examination.

PRODUCTION PLANNING AND CONTROL 1B (BPH11B1)

SECTION A: FORECASTING

34 MARKS

- 1) What are the differences between quantitative and qualitative forecasting methods? (4)
- 2) What is the forecast for May based on a weighted moving average applied to the following past demand data and using the weights: 4, 3, 2 (largest weight is for most recent data)? (5)

Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
37	36	40	42	47	43

- 3) Weekly sales of copy paper at Cubicle Suppliers are in the table below. Compute a three-period moving average and a four-period moving average for weeks 5, 6, and 7. Compute MAD for each forecast. Which model is more accurate? Forecast week 8 with the more accurate method. (25)

Week	Sales (cases)
1	17
2	21
3	27
4	31
5	19
6	17
7	21

SECTION B: JUST IN TIME

20 MARKS

- 1) Compare throughput with manufacturing cycle time. (10)
- 2) Discuss five concerns of Suppliers (10)

SECTION C: LAYOUT DECISIONS

20 MARKS

- 1) Briefly discuss five requirements to develop a good facility layout. (20)

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SECTION D: SUPPLY CHAIN MANAGEMENT

26 MARKS

- 1) As the firm strategies vary from low-cost to response to differentiation, how does this impact the criteria used for selection of a supply-chain strategy? (10)
- 2) How are outsourcing and vertical integration related? Can a single firm successfully do both? (10)
- 3) What are the three negotiation strategies? Briefly describe each of them. (6)

**TOTAL MARKS 100
GOOD LUCK**