UNIVERSITY
JOHANNESBURG

FACULTY OF ENGINEERING AND BUILT ENVIRONMENT

DEPARTMENT OF QUALITY AND OPERATIONS MANAGEMENT

PROGRAMME	:	NATIONAL DIPLOMA LOGISTICS
SUBJECT	:	PRODUCTION PLANNING AND CONTROL
CODE	:	BPH11B1
DATE	:	1 DECEMBER 2014
DURATION	:	3HOUR
TIME	:	(SESSION 2) 11:30 - 14:30
TOTAL MARKS	:	100
WEIGHTS	:	50%
ASSESOR	:	MS K. MUSHAVHANAMADI.
(EXT) MODERATOR	:	Mrs ANTHEA AMADI-ECHENDU
NUMBER OF PAGES	:	3 pages

INSTRUCTIONS TO CANDIDATES:

- Answer ALL questions.
- This is a closed book EXAM.
- Leave margins and spaces between the questions.
- Show all your calculations.
- Unless otherwise indicated, express your answers correct to two (2) decimal places.
- Number your answers clearly.
- The general University of Johannesburg policies, procedures and rules pertaining to written assessments apply to this assessment.

SECTION A — 15 MARKS

1. Given the projected demands for the next six months, prepare an aggregate plan that uses inventory, regular time and overtime, and backorders. Regular time is 150 units per month. Overtime is a maximum of 20 units per month. Overtime cost is R30 per unit, backorder cost is R20 per unit, inventory holding cost is R5 per unit, regular time cost of R20 per unit, and beginning inventory is zero.

Month	Forecast
1	130
2	170
3	140
4	150
5	130
6	150

SECTION B — 30 MARKS

1) What information is necessary for an operations manager to make effective use of a dependent inventory demand model? (10)

2) What does enterprise resource planning (ERP) allow an organization to do? (4)

3) What are the five disadvantages of enterprise resource planning (ERP)? (10)

4) What is the assignment method? (3)

5) What does Johnson's rule do? (3)

SECTION C — 15 MARKS

1. The costs to do each of the three jobs on three alternate pieces of equipment are given below. Determine the job-equipment combination that will minimize total cost. (15)

	A	B	C
CREW 1	R28	R20	R18
2	R26	R22	R14
3	R43	R35	R30

SECTION D: JUST-IN-TIME, LAYOUT, DESIGN OF GOODS AND SERVICES & QUALITY 40 MARKS

1) What is cross-docking? Why is it appropriate for some forms of warehouse layout? (4)

2) What are the two basic types of product layouts? Explain how they are alike, and how they are different. (6)

3) Differentiate between a push and a pull system. (6)

4) Identify sources of variability. (4)

5) Identify the factors that influence new product opportunity (6)

6) Differentiate between order qualifiers and order winners. (4)

7) What are the different cost of quality? (4)

8) Name any 6 (six) tools of TQM (6)