FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT
SUPPLEMENTARY EXAM

DEPARTMENT OF QUALITY AND OPERATIONS MANAGEMENT

PROGRAMME	:	NATIONAL DIPLOMA OPERATIONS MANAGEMENT
SUBJECT	:	OPERATIONS MANAGEMENT 2A
CODE	:	OPM22A2
DATE	:	
DURATION	:	3 HOURS
TIME	:	TBA
TOTAL MARKS	:	
WEIGHTS	:	50%
EXAMINER	:	MR. E.M. BAKAMA
INTERNAL MODERATOR	:	MR. N.S. MADONSELA
NUMBER OF PAGES	:	3 pages (Including cover page)

INSTRUCTIONS TO CANDIDATES:

- Answer ALL questions.
- This is a closed book assessment.
- Leave margins and spaces between the questions.
- Show all your calculations.
- Number your answers clearly.
- Unless otherwise indicated, express your answers correct to two (2) decimal places.
- Where appropriate, indicate the units of your answer. (e.g. Hour, R)
- The general University of Johannesburg policies, procedures and rules pertaining to written assessments apply to this assessment.
- Use attached form to answer Section D of the paper

SECTION A: THEORY — 45 MARKS

1) Identify and explain the types of Inventory. Give example for each of them (8)
2) Can you list the steps for the general procedure of aggregate planning? (6)
3) How would you describe the different types of work Schedules? (8)
4) Explain the following concepts: (6)
   a) Job enlargement.
   b) Job rotation.
   c) Job enrichment.
5) Why aggregate planning sometimes is referred to Sales and Operations Planning? (3)
6) Mention and explain where necessary the strategies to counter variation when dealing with aggregate planning. (6)
7) Differentiate the chase approach from the level approach used in aggregate planning and for each one of them provide one advantage and disadvantage. (8)

SECTION B: FORECASTING — 55 MARKS

Favors Distribution Company purchases small imported trinkets in bulk, packages them, and sells them to retail stores. They are conducting an inventory control study of all their items. The following data are for one such item, which is not seasonal.

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Sales	51	55	54	57	50	68	66	59	67	69

a. Starting from February (period 2), use a Naïve approach to forecast the demand of November (Period 11). (10)
b. Starting from May (period 5), use a four months moving average method to forecast November (Period 11) using the following weights 0.60, 0.28,

0.45 and 0.11. You are to allocate the heaviest weight to the most recent period. (7)

c. Using the exponential smoothing method, forecast the demand of November (Period 10) knowing that the forecast in January was 48. (10)

d. Use the MAD to determine which one of the methods used to forecast the November demand is the most accurate. (28)

GOODLUCK ☺