



REFORMED CHURCH UNIVERSITY

FACULTY OF COMMERCE

**Bachelor of Commerce Honours Degree in Logistics and Supply
Chain Management**

Production and Operation Management

HLSM 406

Part 4 Semester 1 Examination

Total Marks [100]

Date: July 2021

Time: 3 Hours

INSTRUCTIONS

1. This paper has *six (6)* questions
2. Answer question *one (1)* and *any* other *three (3)*
3. Each question carries *25 marks*
4. Start each question on a new page

1. Discuss the role and responsibilities of an Operations Manager within an organisation. (25)
2. Using a product of your choice, examine the content and purpose of the design process. (25)
3. (a) With appropriate examples, explain how a Materials Requirement Planning (MRP) system works. (10)
- (b) Discuss the benefits and challenges associated with the implementation of an MRP system. (15)
4. Consider the details of a project as shown in the table:

ACTIVITY	IMMEDIATE PREDECESSOR(S)	OPTIMISTIC	M	PESSIMISTIC
A	-	5	15	25
B	-	5	10	45
C	-	20	25	60
D	A	10	40	40
E	B	5	10	45
F	C	15	15	45
G	C	5	10	15
H	D, G	15	30	45
I	E, F	10	20	60

- a) Determine the mean time for each activity (9)
- b) Draw a network diagram for the project. (6)
- c) Identify the Critical Path and calculate the duration of the project. (6)
- d) State any **four** advantages of Critical Path Model. (4)

5. Compare and contrast process oriented and product-oriented layout. (25)
6. (a) With relevant examples, discuss the factors which should be considered when deciding a suitable type of plant layout. (15)
- b. Examine the principles of good layout. (10)

End of Paper