

ANSWER ALL QUESTIONS. TIME: 50 MINUTES

Please write neatly using pen/ball pen and clearly show all calculation steps.

Question 1 (15 marks)

1.1 Briefly discuss why project management is becoming more important in engineering and manufacturing?.

(5marks)

1.2 Discuss how operations strategies changes at different phases in product life cycle. Select a common consumer product to clarify your discussion.

(5 marks)

1.3 A company is planning to produce a new product. Suggest to this company how the design and development team can concurrently plan for their new product beginning with the customer needs and translating them into technical requirement. Graphically demonstrate using an example of any product.

(5 marks)

Question 2 (5 marks)

You are planning to bid one of the following projects:

- i) A house renovation project.
- ii) Production of a new product in a manufacturing company
- iii) Organizing an open day for a school or college

Based on your selected project above, propose a work breakdown structure (WBS) comprising at least a total of 10 items in the WBS (major tasks, subtest, and activities)

(10 marks)

Question 3 (15 marks)

A manager is very concerned with the amount of time to complete the project with activities as listed Table A. Some of the workers are unreliable and delivery of material is uncertain.

Table A: Activities and related information

Activity	Time (week)			Immediate predecessor (s)
	optimistic	Most likely	pessimistic	
A	3	6	8	-
B	2	4	6	-
C	1	2	3	-
D	6	7	8	C
E	2	4	6	B,D
F	6	10	14	A,E

- a) Construct the network diagram based on activity of node (AON) and determine the minimum project completion time using forward and backward pass.

(10 marks)

Question 4 (5 marks)

The total material and labour cost for producing each subassembly of product A is RM 8.00. The overall final assembly cost/unit is RM15.00. The total annual fixed cost to manufacture this product is RM100,000.00. Assume there is no other cost involved and all units produced can be sold. What should be the minimum selling price for this product in order to avoid loss and what should be the minimum quantity to be produced in a year?

(5 marks)