THE OPEN UNIVERSITY OF SRI LANKA

PG DIPLOMA/ MASTER OF TECHNOLOGY IN APPAREL PRODUCTION AND MANAGEMENT

FINAL EXAMINATION - 2010/2011

TTI7137- PRODUCTION PLANNING

DURATION – THREE HOURS

DATE: 09th MARCH 2011 TIME: 1330 TO 1630 HOURS

Total Number of questions =07 **Number of questions to be answered = 06**

Q1. (a) Briefly explain the term "Production". (20% marks)

(b) Briefly explain the sub-functions of production related to apparel industry. (40% marks)

(c) Why sub-functions are important? State your production set up and explain the answer in relation with your production set-up. (40% marks)

Q2. (a) What are the functions of production planning? (40% marks)

(b) Explain activities of a production planning department of a garment industry. (60% marks)

Q3. (a) How do you determine the capacity of an organization? (30% marks)

(b) A small apparel sub-contractor has employed 35 operators, who work 7 hrs a day. The plant has 90% efficiency level. A customer brought in an order for 18,000 units of style X, which needs to be finished in 10 days. The plant has the appropriate equipment and skills to make the style. The plant also has the committed capacity of 800 hours for the planned 10 day period. Style X has a production time of 5 SMVs.

(i) With the aid of necessary calculations, decide whether the factory has enough capacity to accept the order or not. (40% marks)

(ii) If the available capacity is not enough, what concepts could you apply to carry out the production at the same organisation? (30% marks)

Q4. (a) Why forecasting is required? (30% marks)

(b) What are the general steps to be taken in forecasting process? (40% marks)

(c) Explain advantages and disadvantages of Delphy method of forecasting. (30% Marks)

Q5. XYZ is a manufacturing company. Actual sales of a particular product for the last two years is given here.

Month	Year 2009	Year 2010
Jan	15,000	16,000
Feb	16,000	17,000
Mar	20,000	24,000
Apr	9,000	9,500
May	6,500	7,000
Jun	6,000	7,000
Jul	6,000	6,500
Aug	6,500	6,500
Sep	7,000	8,000
Oct	8,500	9,500
Nov	10,000	11,000
Dec	15,000	16,000

Prepare a forecast for each and every month of the year 2011 by following methods.

(a) Simple moving average based on 3 months moving average (40% marks)

(b) Weighted average. (60% marks)

Weighting scheme is given below.

- for the last month = 4
- 2 months = 2
- 3 months ago = 1

Q6. (a) What do you mean by Master Production Schedule (MPS)? (15% marks)

(b) Prepare a Master Production Schedule for the 8 week period given below. (There is a beginning inventory of 8600 units and the production lot size is 10000 units) (85% Marks)

Month	**February**				**March**			
Week	1	2	3	4	5	6	7	8
Forecast	4000	4000	4000	4000	5000	5000	5000	5000
Customer order committed	4300	3000	2000	800	400			

Q7. (a) Sewing room scheduling is an important activity in the garment manufacturing process. Explain why? (15% Marks)

(b) The following chart shows you some important data regarding 7 orders of the factory XYZ.

Type	**No. of garments**	**SMV for the sewing process**	**Week due**
A	9,000	20	6
B	25,000	14	7
C	4,000	20	7
D	3,000	15	8
E	14,000	15	12
F	4,000	30	12
G	6,000	25	12

This factory has a weekly capacity of 100,000 standard minutes.

There are 50 operators organized in two lines. Using the data answer the following questions.

(i) Find the load of each and every order. (50% Marks)

(ii) Prepare a Gantt Chart for the production schedule. (35% Marks)