UNIVERSITY OF COLOMBO
FACULTY OF ARTS
DEPARTMENT OF ECONOMICS

POST GRADUATE DIPLOMA IN TRAVEL &TOURISM ECONOMICS AND HOTEL MANAGEMENT
(6th Batch)

DTEHM S506: TOURISM PRODUCT DESIGNING AND QUALITY ADVANCEMENT
### FINAL EXAMINATION- 2018
(Semister-11)

Time Allowed THREE (3) HOURS
Answer FIVE (5) Questions including Question No. 1
(Question No. 1 is Compulsory

---

1) The tourism businesses face the challenge to reduce significantly their costs in the future and to structure internal processes more efficient. The value stream maps (VSM), provides a picture of the entire work processes, showing both value and non-value adding activities enables a more systematic and sustainable service design approach.

   a) What are the processes in a hotel where VSM could be applied?   (5 marks)

   b) Calculate the total value added time to the customer Hot dog making processes in below
                                                                              (5 marks)

   c) Calculate the cycle time for making a hot dog (Refer diagram Below)   (5 marks)

   d) Calculate the takt time for demand of 100 hot dogs for 50 customers, (Refer Diagram below)   (5 marks)

Hot Dog Stand Process Map   (Open from 10AM - 2PM)
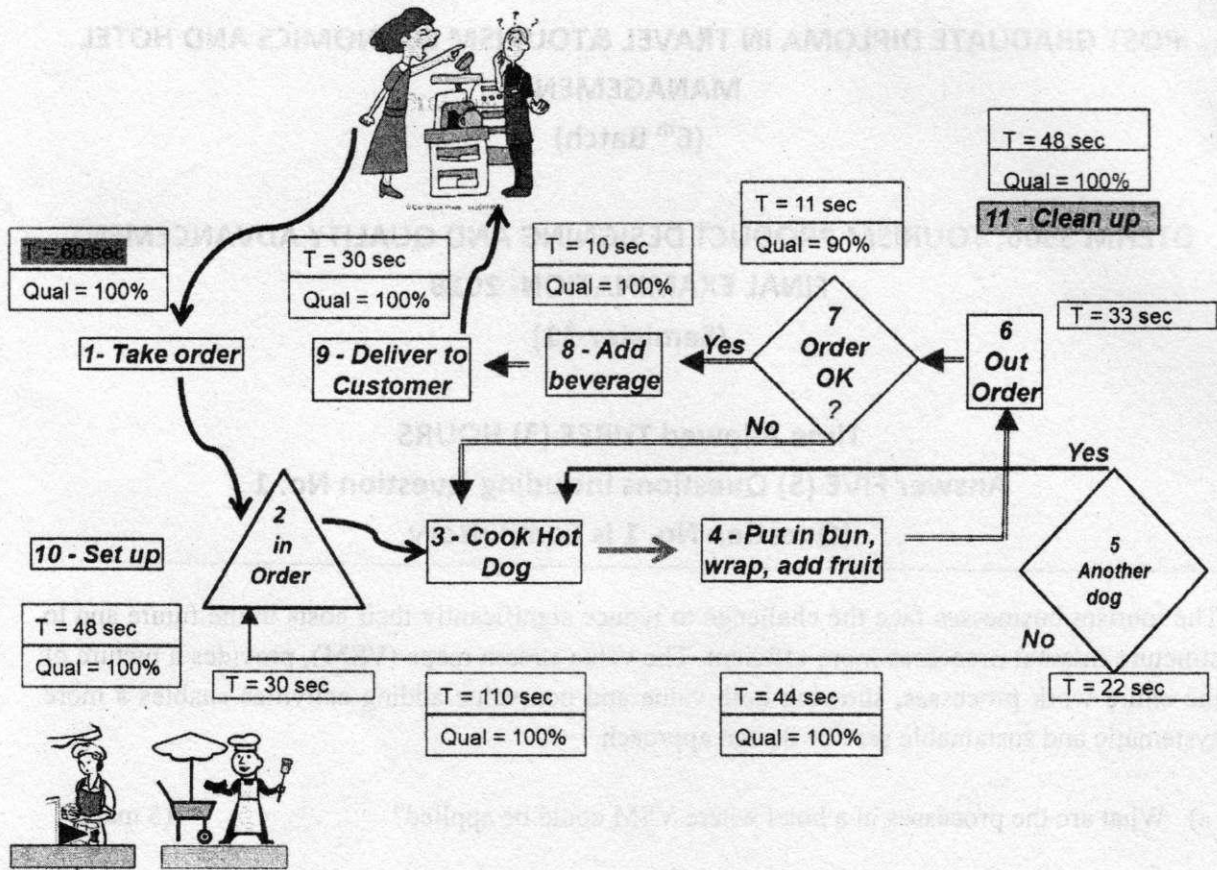
2) There are 5 dimensions of service quality that make the quality of the service, using relevant examples, briefly explain these 5 service dimensions?   (20 marks)

3) Explain the Conceptual Model of Service Quality and briefly outline reasons for each gap? You are required to use relevant diagrams/illustration   (20 marks)

4) a) What do you understand by Six Sigma?   (5 marks)

   b) You have been appointed as a Quality Manager at the at the leading hotel. You carried out a survey to I identify the types of defects which occurred in check in process and these are listed below

      i.   Name wrongly written

      ii.   Wrong room type

      iii. Wrong key card

      Using a sample of 500 services you find out

      iv.   Name wrongly written on 8 services

v. Wrong room type in 5 services

vi. Wrong key card in 7 services

You are required to

a) Carry out a Pareto analysis to illustrate your answer. As quality manager, prioritize your quality improvement projects at the check in process in hotel   (5 marks)

b) Compute the Sigma level of the check in process. Using the sigma table given below

(5 marks)

c) Using a fish born diagram , identify the causes of the wrong room types

(5 marks)

5) Read the following case study and answer the questions.

A 50th wedding anniversary party was held in the function room of the local community centre. There were a large number of guests invited to the celebrations. A catering company was employed to prepare the food for the party. It was decided that a buffet style of service would be the most suitable on the night. The main dishes on the menu were a range of cold meats and salads including:

- Cooked meats: Cooked Ham, Beef, Tuna, Salmon
- Salads: Coleslaw, Potato Salad, Egg Salad, Lettuce, tomato, cucumber and peppers

The food was prepared in a small kitchen at the centre in the early afternoon. The meats were precooked by the catering company on the previous day in their own kitchens. The meats were sliced in the community centre. The salads were prepared in the kitchen of the centre. The kitchen was small in the centre and there was limited refrigerator space. The cooked meats were stored in the refrigerator which was over packed. As there was not enough room in the refrigerator, the salads were held in the kitchen for four hours before service. There were two chefs preparing the salads for the party. It was summer time and a lot of the catering company's staff were on holidays. One of the staff had a cold and was coughing and sneezing a lot while preparing the salads. The party started at 7.30pm and the food was served from 8pm onwards. By 1am that night several people were ill showing symptoms of food poisoning, which included severe vomiting, nausea, abdominal cramps and diarrhoea. Several of the elderly people needed hospital treatment. When the outbreak was investigated Staphylococcus aureus was isolated from the coleslaw, the potato salad and also from the cooked ham. Staphylococcus aureus was also isolated from the nose and hands of the chef who had the cold. There were no gloves available for the chefs when preparing the salads. When the hygiene of the kitchen was examined it was found that the correct colour coded chopping boards were not used for preparing the salads. Also when the temperature of the refrigerator was examined it was found to be 8°C

(a) The environmental health officers suspected that the outbreak was caused by Staphylococcus aureus before they had completed their detailed investigation. What aspects of the outbreak lead them to this conclusion?

_____

_____(

4marks)

(b) Outline the main factors that lead to this outbreak of food poisoning.

_____

_____

_____

_____(

4marks)

(c) How could the outbreak have been prevented?

_____

_____

_____

_____(

4marks)

d) State which of the salads served at the party were high risk salads.

_____(

4marks)

(e) Give the reasons why these salads are classed as high risk.

_____

_____(

4marks)

6) Just like all other sectors of the economy, the tourism industry exerts pressures on the environment, for example due to the production of waste and the consumption of water, energy and other resources. Therefore **Environmental metrics** are designed to assess the environmental impact of activities due to tourism

    a) Discuss the importance of setting the environmental metrics in Tourism   (5marks)

    b) List down and discuss the environmental metrics you are aware   (5marks)

    c) What do you understand by tourist carbon footprint (**TCF**)?   (5marks)

    d) If a bed sheet is used for six months Calculate the Material intensity per service unit (MIPS) *Ecological rucksack of bed sheet is 2750 g, The usage of bed sheet per month is 30 times*

          (5marks)

Six Sigma Conversion Table

Yield	DPMO	Sigma	Yield	DPMO	Sigma	Yield	DPMO	Sigma
6.6%	934,000	0	69.2%	308,000	2	99.4%	6,210	4
8.0%	920,000	0.1	72.6%	274,000	2.1	99.5%	4,660	4.1
10.0%	900,000	0.2	75.8%	242,000	2.2	99.7%	3,460	4.2
12.0%	880,000	0.3	78.8%	212,000	2.3	99.75%	2,550	4.3
14.0%	860,000	0.4	81.6%	184,000	2.4	99.81%	1,860	4.4
16.0%	840,000	0.5	84.2%	158,000	2.5	99.87%	1,350	4.5
19.0%	810,000	0.6	86.5%	135,000	2.6	99.90%	960	4.6
22.0%	780,000	0.7	88.5%	115,000	2.7	99.93%	680	4.7
25.0%	750,000	0.8	90.3%	96,800	2.8	99.95%	480	4.8
28.0%	720,000	0.9	91.9%	80,800	2.9	99.97%	330	4.9
31.0%	690,000	1	93.3%	66,800	3	99.977%	230	5
35.0%	650,000	1.1	94.5%	54,800	3.1	99.985%	150	5.1
39.0%	610,000	1.2	95.5%	44,600	3.2	99.990%	100	5.2
43.0%	570,000	1.3	96.4%	35,900	3.3	99.993%	70	5.3
46.0%	540,000	1.4	97.1%	28,700	3.4	99.996%	40	5.4
50.0%	500,000	1.5	97.7%	22,700	3.5	99.997%	30	5.5
54.0%	460,000	1.6	98.2%	17,800	3.6	99.9980%	20	5.6
58.0%	420,000	1.7	98.6%	13,900	3.7	99.9990%	10	5.7
61.8%	382,000	1.8	98.9%	10,700	3.8	99.9992%	8	5.8
65.6%	344,000	1.9	99.2%	8,190	3.9	99.9995%	5	5.9
						99.99966%	3.4	6