



**PENINSULA**  
**COLLEGE**  
GEORGETOWN

## TAKE HOME EXAMINATION

**Student NRIC** : \_\_\_\_\_

**Student ID** : \_\_\_\_\_

Programme	:	<b>DIPLOMA IN E-BUSINESS TECHNOLOGY (MQA/PA13807)</b>
		<b>DIPLOMA OF ACCOUNTANCY (MQA/FA10069)</b>
Intake	:	<b>SEP 2020 (YEAR 1 SEMESTER 3)</b>
		<b>MAY 2021 (YEAR 1 SEMESTER 1)</b>
		<b>JAN 2021 (YEAR 1 SEMESTER 2)</b>
Course	:	<b>BUSINESS STATISTICS</b>
Course Code	:	<b>DEB1223 / DBMT3023</b>
Duration	:	<b>3 HOURS</b>

### INSTRUCTIONS TO CANDIDATES:

1. Please read the instructions given in the question paper **CAREFULLY**.
2. The question paper consists of **FOUR (4)** questions.
3. Answer **ALL** questions.
4. Answers to the questions are to be written into own A4 sized papers.
5. Please write your NRIC number or student ID number on every page of your answer script. **Do NOT** write your name.
6. Please write a page number on every page of your answer script.
7. Please **KEEP** the hardcopy of your answer script.

### WARNING:

The Examination Board of Peninsula College Georgetown regards cheating as a most serious offence and will not hesitate to mete out the appropriate punitive actions according to the severity of the offence committed and in the accordance with the clauses stipulated in the Students' Handbook, up to and including expulsion from Peninsula College Georgetown.

*(This booklet contains 5 printed pages including this page)*

**DO NOT OPEN THIS BOOKLET UNTIL YOU ARE ALLOWED TO DO SO**

Answer **ALL** questions on the separate sheet provided.

**[100 marks]**

1. The following tables show the sales (in RM thousands) for a winter wear manufacturer from 2004 to 2006.

Year	Spring	Summer	Fall	Winter
2004	920	1085	1241	446
2005	1035	1180	1356	541
2006	1299	1324	1450	659

- a) Complete the table below to find the specific seasonal index. (11 marks)

Year	Quarter	Sales (in RM thousands)	Four-Quarter Moving Total	Four-Quarter Moving Total	Centred Moving Average	Specific Seasonal Index
2004	Spring	920				
	Summer	1085				
	Fall	1241				
	Winter	446				
2005	Spring	1035				
	Summer	1180				
	Fall	1356				
	Winter	541				
2006	Spring	1299				
	Summer	1324				
	Fall	1450				
	Winter	659				

- b) Refer to answers in **Question 1 (a)**, find the correction factor. (6 marks)

- c) Recalculate all seasonal indexes with the correction factor in **Question 1(b)**. (8 marks)

2. a) The five tallest skyscrapers in the United States (US) are stated below:

Skyscrapers	Height (feet)
Will Tower	1450
Empire State Building	1250
One World Trade Centre	1776
Trump Tower	1388
2 World Trade Centre	1340

Compute the:

- i) average height of the skyscrapers. (3 marks)
  - ii) variance of five skyscrapers height. (4 marks)
  - iii) standard deviation of the heights of skyscrapers in the US. (3 marks)
- b) The following frequency distribution table shows the score of an English test of Standard 2 students.

Score	Number of Students
0 up to 10	0
10 up to 20	3
20 up to 30	7
30 up to 40	10
40 up to 50	16
50 up to 60	34
60 up to 70	13
70 up to 80	7
80 up to 90	6
90 up to 100	4

Find the:

- i) mean score. (9 marks)
- ii) median score. (6 marks)

3. a) Galvin's shopping cart contains three items: face masks, face shields and sanitisers with the following prices and quantities in 2020 and 2021:

Items	Quantity	Price (RM)	
		2020	2021
Face Masks	5 boxes	20 / box	25 / box
Face Shields	10 pieces	5 / piece	5.50 / piece
Sanitisers	2 bottles	50 / bottle	60 / bottle

Compute the price index for the shopping carts in 2021. Interpret the result computed.  
 (8 marks)

- b) The quantity of vegetables consumed per day at a school canteen is recorded as below:

Vegetables	Quantity per day in kilograms		
	2015	2016	2017
Cabbage	2.34	2.38	2.60
Lady Finger	6.00	6.50	7.00
Carrot	0.85	0.89	0.94
Long Bean	1.11	1.19	1.18

Express the quantity in 2017 in terms of aggregate indexes. Comment the answer calculated.  
 (5 marks)

- c) The prices per 400 grams of canned food for the years 2018 and 2019 were as follow:

Canned Food	Price in RM	
	2018	2019
Chick Peas	3.20	3.80
Kidney Beans	3.00	3.40
Chopped Tomatoes	4.00	4.30
Sweet Kernel Corn	2.80	3.10
Baked Bean	3.40	3.90

Calculate and explain the average relative price index for the canned food stated above.  
 (7 marks)

- d) Briefly explain the term "*Non-Probability Sampling Method*".  
 (5 marks)

4. a) You and your friend choose an integer between one (1) and four (4), inclusive. Then, drop down both numbers on a piece of paper where your number is written first and your friend's number last. List all the outcomes and obtain the probability that:
- i) both numbers picked are more than 2. (3 marks)
  - ii) sum of the two numbers is a prime number. (4 marks)
  - iii) you pick number 3 or your friend picks number 2. (4 marks)
- b) The duration of telephone calls has a mean of 220 seconds and a standard deviation of 30 seconds. Get the probability that a call lasted:
- i) less than 175 seconds. (6 marks)
  - ii) between 175 and 265 seconds. (8 marks)

**- END OF QUESTIONS -**