

# **G101**

## **MSA Feedback Package**

Academic Year 2017

Semester 1



**CENTRE FOR  
EDUCATIONAL  
DEVELOPMENT**



# Section A (15 Marks)

**Read the following carefully and answer Questions 1 to 9.**

June was surfing online on *Facebook*. Her friend posted a link to a Singapore Government's official news website. June clicked on the link and saw this article:

## **EXTRACT 1**

**TODAY Online – United Nations (UN) survey names Singapore the happiest country in the region**

The happiest country in the world is Denmark.

17 Mar 2016

The survey, which polled about 3 000 people in each country and asked them to evaluate their life in 11 categories on a scale from 0 to 10, also ranked Singapore as the 22nd happiest country in the world. Singapore moved two places up from the previous list.

Singapore scored 6.739 in the “happy index” of the World Happiness Report 2016, which was published by the Sustainable Development Solutions Network for the United Nations. The survey is based on polls done by international research and performance-management company Gallup, using the Gallup World Poll methodology.

Denmark was ranked as the happiest country in the world once again with a “happy index” score of 7.526.

**Adapted from** *TODAY ONLINE*

<https://www.gov.sg/news/content/today-online-un-survey-names-singapore-the-happiest-country-in-the-region>



# Section A Question 1

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Based on **EXTRACT 1** from *TODAY ONLINE*, which of the following is the **PRIMARY** and **SECONDARY** source of information?

Choose the option in the format **[PRIMARY; SECONDARY]**.

- A. Singapore Government; *TODAY ONLINE*
- B. *TODAY ONLINE*; Singapore Government
- C. United Nations; *Facebook*
- D. Gallup; United Nations

**[1 Mark]**



# Section A Question 2

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June's friends mentioned that they know many Singaporeans who do not seem happy at all. They wondered if the World Happiness Report 2016 may be misleading.

Which of the following is the **BEST** way to find out if the World Happiness Report 2016 may be misleading?

- A. Google "Twenty exciting things to do in Singapore"
- B. Read a study titled "Are Malaysians happier than Singaporeans?"
- C. Check out this online forum <http://www.angrysingaporeans.com.sg>
- D. Google "Survey that shows Singaporeans are the least happy people in the world"

[1 Mark]



# Section A Question 3

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June wants to check another source to find out if 'Denmark is the happiest country in the world' in 2016.

Which of the following sources is the **MOST CREDIBLE**?

- A. A 2016 study done by a non-profit research agency, on how happy citizens are with their lives around different countries in the world, including Denmark.
- B. A 2016 study done by a non-profit research agency, on how happy citizens are at the workplace around different countries in the world, including Denmark.
- C. Studies done by the American Government on the happiness level of citizens of all the countries in the world, including Denmark.
- D. Studies done by the Government of Denmark on the happiness level of its citizens from the year 1996 to 2016 (a total of twenty years).

**[1 Mark]**



# Section A Question 4

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After reading **EXTRACT 1** from *TODAY ONLINE*, June made the following claims. Indicate if June's claims are **VERIFIABLE** or **NON-VERIFIABLE** in the blanks below.

i.	Denmark scored 7.526 in the “happy index”.	Verifiable
ii.	The happiest country in the world is Denmark.	Non-verifiable
iii.	Singapore was the 20 <sup>th</sup> happiest country in the world in the previous survey.	Verifiable

**[3 Marks]**



# Section A Question 5

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**EXTRACT 1** from *TODAY ONLINE* stated that about 3 000 people in each country were surveyed.

Which of the following would **MOST LIKELY** lead to a **BIASED SAMPLE**?

About half of the 3 000 people surveyed were \_\_\_\_\_ .

- A. male
- B. female
- C. chosen randomly
- D. above 90 years old

**[1 Mark]**



# Section A Question 6

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June's friend suggested that she looks at **ANOTHER** report to check if the World Happiness Report 2016 is credible.

Explain how June would use this other report to check the credibility of the World Happiness Report 2016.

**[2 Marks]**

**Students are expected to:**

1. Identify the purpose of using another report to check the credibility of the World Happiness Report 2016.
2. Contextualise the explanation to explain the implication of checking another report against the first report.

**Note to students:**

1. No marks awarded for just stating “corroboration” without explaining how it is used to check credibility.
2. Question requires you to check the credibility of the report instead of discussing how reliable the data in the report.





# Markers' Feedback on Section A Question 6

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## Example of good responses:

1. As June is using multiple sources to check whether the information given on the report on the World Happiness Report 2016, she is able to see if other sources are relaying the same information on their articles or reports. If what other sources say is the same as what the World Happiness Report 2016 report says then, the credibility of the information increases.
2. June could use another report to corroborate the content such that there is other independent support evidence to strengthen the report and thus make it more credible. The other report however can also contradict the content of the World Happiness Report and make it less credible.



# Section A Question 7

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Besides checking other survey reports, explain **ONE** thing June can do to check the credibility of the **SOURCE** on the World Happiness Report 2016.

**[2 Marks]**

**Students are expected to:**

1. Identify one possible action that June can do by checking the criteria regarding credibility of source, such as reputation for trustworthiness, first/secondary source of information, vested interest, relevant expertise or currency of information.
2. Explain how this action established credibility based on the context given.

**Notes to students:**

1. No marks awarded for listing the criteria to check credibility (i.e. S.U.R.E) without explaining how these criteria can be applied to check credibility of the source in the given context.
2. No marks awarded if student still state the use of other reports when the question had clearly indicated “besides checking other survey reports”.



# Markers' Feedback on Section A Question 7

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## Example of good responses:

1. June can research on Gallup's background. For example, she can research on when the company was found, how long have they been doing studies (hence their expertise). If they have been doing studies for some time, they would be more reliable in their studies and information as they have the relevant experience and expertise, therefore making them credible.
2. She could do research on the background of the source itself which in this case would be the organisation behind the World Happiness Report to see if any corporate entities may have given reason for them to be biased (harbour vested interests or ulterior motives). If there were to be a high likelihood of that, for example if it is discovered that the Sustainable Development Solutions Network for the United Nations received donations in large quantities from Denmark, the source of the World Happiness Report may not be credible.



# Section A Question 8

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Read the following arguments:

A	<i>Since 3000 people surveyed in Denmark have indicated that they are very happy, I would consider migrating there to raise my children in such an environment.</i>
B	<i>A lot of my friends have migrated to Denmark and they have told me how wonderful it is over there and how happy they are. I should migrate there too.</i>
C	<i>Since, according to the survey, Denmark is the happiest place in the world, if I migrate to Denmark, my neighbours and colleagues would mostly be happy people.</i>
D	<i>Migrating to Denmark, the happiest place in the world, would make me a much happier person and ensures I would live more healthily and longer.”</i>

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# Section A Question 8

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Which **ONE** of the arguments above commits the **BANDWAGON FALLACY**?

**B**

**[1 Mark]**

Which **ONE** of the arguments above commits the **SLIPPERY SLOPE FALLACY**?

**D**

**[1 Mark]**



# Section A Question 9

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Since the World Happiness Report (2016) had been released, Noel, a Singaporean owner of a travel agency has been receiving many calls asking for flights and holiday packages to Denmark. Noel sees the potential to increase his profits. He decides to design a short advertisement for a holiday package to Denmark.

Using the **LOSS AVERSION** cognitive bias, suggest phrase(s) you would write in Noel's advertisement slogan. You are **ONLY** allowed to use a **MAXIMUM of FIFTEEN (15) words** in your advertisement slogan. Explain why your suggestion illustrates the **LOSS AVERSION** cognitive bias.

[2 Marks]

**Students are expected to:**

1. Construct an advertisement slogan illustrate the use of the loss aversion cognitive bias based on the given context.
2. Explain how the slogan constructed by characterising the 'loss' consumers would want to avoid.

**Notes to students:**

1. No marks awarded for lifting the definitions of loss aversion from 6<sup>th</sup> P or revision package without contextualising with the slogan constructed.



# Markers' Feedback on Section A Question 9

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## Example of good responses:

1. "Buy two tickets now with the price of one. Available until the end of June." People might thought buying two tickets at the price of one will be a good deal as there is 50% discount. It is half of the price of the total so people might thought it is very cheap. Putting a limit to the offer might urge people to buy as they will not get the offer anymore. So, if they don't buy it now, it will be their lost. Thus, my suggestion illustrates loss aversion.
2. "Best deal! 30% off for a limited time! Get your tickets now! "It illustrates loss aversion cognitive bias because it will let potential customers feel that it would be the cheapest deal to Denmark and if he/she does not get it quickly, it would result in a loss of their money as they think that other packages will be more expensive and thus, making them feel like they saved some of their money.



## Section B (15 marks)

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**Read the following carefully and answer Questions 10 to 14.**

John wonders if drinking coffee regularly would help a person lose weight. He plans to conduct the following experiment with his two friends, David and Peter.

Both David and Peter will drink one cup of coffee every day over three months and monitor their weight weekly using a weighing machine.

Both of them would also keep to the same diet for the three months.

If both of them report losing at least 3 kg at the end of three months, John would conclude that it has worked.

Currently, both David and Peter each weigh 70 kg.





# Section B Question 10

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What is the **INDEPENDENT** variable in John's experiment?

- A. Losing weight
- B. **Drinking coffee**
- C. Weighing machine
- D. Keeping same diet

**[1 Mark]**



# Section B Question 11

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Which of the following changes should John do to his experiment to **BEST** improve the accuracy of the results?

Ensure that both David and Peter \_\_\_\_\_ .

- A. are university graduates
- B. like the same type of food
- C. **have the same exercise routine**
- D. use the same brand of weighing machine

**[1 Mark]**



# Section B Question 12

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Which of the following actions by David will cause **INACCURATE** results in the experiment on whether drinking coffee regularly would help a person lose weight after three months?

- I. On some weeks, David uses different weighing machine.
- II. On some weeks, David weighs himself in the morning before he brushes his teeth and on other weeks, after he brushes his teeth.
- III. David may not drink a cup of coffee at all on some days in the first month.
- IV. David may eat more on some days in the third month.

- A. I & II
- B. I & III
- C. II & IV
- D. III & IV

**[1 Mark]**



# Section B Question 13

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John wants to check the sugar content in the coffee packs that are given to David and Peter to drink. He thought of the following method - taste the coffee himself and rate how sweet it is on a scale of 1 to 10.

Is John's method of measuring the sugar content in the coffee pack **OBJECTIVE**? Explain your answer.

**[2 Marks]**

**Students are expected to:**

1. Identify that the test method to measure sugar content in the coffee pack is not objective due to subjectivity issues.
2. Contextualise the explanation to why being subjective in this method will result in inaccurate results.

**Note to students:**

1. No marks awarded for stating “No, it is not objective”. This question requires students to provide an explanation more than just a “Yes/No” in the answer.



# Markers' Feedback on Section A Question 13

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## Example of a good response:

1. John's method is not objective as it is based on a subjective view that is dependent on the investigator's biasness, such as personal feelings or opinion of the sugar content in the coffee pack. It does not ensure accurate result of how much is the sugar content of the coffee pack as it relies on personal preferences and each person's taste preference can varies from person to person.



# Section B Question 14

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John went ahead to conduct an experiment on David and Peter. He ensured that both of them drank one cup of coffee and kept to the **same** diet everyday over the three months.

Below is the data John has collected in the **first 3 weeks** of his experiment:

David's initial weight before experiment: 70 kg

Peter's initial weight before experiment: 70 kg

<i>Month</i>	<i>Week</i>	<i>David's weight</i>	<i>Peter's weight</i>
<i>1<sup>st</sup> month</i>	<i>End of week 1</i>	<i>70 kg</i>	<i>69 kg</i>
	<i>End of week 2</i>	<i>70 kg</i>	<i>68 kg</i>
	<i>End of week 3</i>	<i>71 kg</i>	<i>66 kg</i>

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# Section B Question 14

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What would be the **MOST REASONABLE** interpretation of the data shown above?

- A. Peter and David must be of a different height.
- B. Peter must have drank more coffee than David.
- C. There is no evidence to show that drinking coffee regularly helps a person to lose weight.
- D. There is strong evidence to show that drinking coffee regularly helps a person to lose weight.

**[1 Mark]**



# Section B Question 15

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**Read the following carefully and answer Questions 15 to 19.**

Consider the following scenario.

Jack is having a fever. His mother used her hands to feel his forehead and said that his fever was very high. She got him to drink 300 ml of green tea. After six hours, she asked Jack's father to use his hands to feel Jack's forehead. Jack's father said that his fever was not so high. Jack's father concluded that the green tea had worked.

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# Section B Question 15

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What is the likely **HYPOTHESIS** made by Jack's father?

**[1 Mark]**

**Students are expected to:**

1. Identify the independent and dependent variables and state the casual relationship in the hypothesis.

**Note to students:**

1. Hypothesis is not a conclusion statement.
2. A causal relationship (e.g. if-then) is needed when forming a hypothesis.
3. Hypothesis should be written in statement form and phrased as a question.



# Markers' Feedback on Section A Question 15

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## Example of good responses:

1. The subsiding of fever is dependent on the amount of green tea.
2. The hypothesis would be: "Drinking Green tea helped Jack to decrease his high fever over the last 6 hours."



# Section B Question 16

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Jack's father concluded that the green tea had worked for Jack.

Is he correct in making such a conclusion? Explain your answer.

**[2 Marks]**

**Students are expected to:**

1. Identify that the conclusion made is incorrect.
2. Explain why it is flawed for Jack's father to make a conclusion just by using his hands to measure Jack's fever (lack of objectivity in test instrument).

**Note to students:**

1. No marks awarded for stating "No, it is incorrect". This question requires students to provide an explanation more than just a "Yes/No" in the answer.



# Markers' Feedback on Section A Question 16

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## Example of a good response:

1. No, he is incorrect. Firstly, the initial measurement as not done by Jack's father. This means that there is no reliability because the data collected is not consistent. Secondly, using his hands as a form of instrument to measure is inaccurate and not objective because it is dependant on his personal opinion which can be bias. Thirdly, even if the fever really had gone down, the cause of it might not be due to the green tea. There might be other factors leading to the decrease of temperature, such as consumption of medicine or having enough rest. Furthermore, there is a problem with the sufficiency of his data. His argument is based on his observation of his son, so it is not correct to generalize an observation of just one person to the whole population.



# Section B Question 17

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Suggest **AND** explain how Jack's father can use a **RELIABLE** method to measure Jack's fever.

**[2 Marks]**

**Students are expected to:**

1. Identify that a reliable test method to measure temperature in the given context.
2. Contextualise the explanation based on the given context why this test method is reliable as a result of consistency.

**Note to students:**

1. Reliability is not about the test method being accurate or objective or simply measurable.



# Markers' Feedback on Section A Question 17

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## Example of a good response:

1. Jack father can use a reliable method like a clinical thermometer that can measure the changes in Jack's body temperature. And the condition should be similar when taking the temperature reading, such as the surrounding temperature should be the same. Jack should be wearing same type of clothes as body temperature can be vary on the different material of the clothes worn. By doing so, Jack's father can obtain a consistent results, which will make the test method reliable.



# Section B Question 18

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Jack's mother claims that to lower the temperature of a high fever, drinking green bean soup will also have the same effect as drinking green tea. This is because both drinks are green.

Explain the steps of the scientific method Jack's mother needs to do to support her claim.

**[2 Marks]**

**Students are expected to:**

1. Identify the variables to be kept constant and varied when testing out the hypothesis.
2. Contextualise the explanation based on the given context how the criteria in a scientific experiment can be achieved in order to support a claim.

**Note to students:**

1. No marks awarded for just stating “independent variables to be varied” and/or “variables have to be kept constant”.
2. No marks awarded for just listing or describing the steps taken in a scientific experiment.



# Markers' Feedback on Section A Question 18

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## Example of a good response:

1. She should then conduct an experiment free from personal biases by using a thermometer to monitor the body temperature of her test subjects. She has to ensure the test conditions are similar, such as giving them the same amount of green bean soup and green tea. For example, she can get two people with high fever of the same temperature to drink 2 litres of green tea and monitor the temperature hourly. And on another occasion, she will give them 2 litres of green bean soup. This is to find out if it is green bean soup or green tea has worked. Record the findings. After that, analyse the results obtained and report her findings.





# Section B Question 19

Consider this claim, “to reduce fever you must drink green tea in the morning”. Three tests were done on 100 participants as follows:

Test	Morning	Evening
1	300 ml of green tea	300 ml of green tea
2	300 ml of green tea	300 ml of water
3	300 ml of water	300 ml of green tea

Explain which of the **TWO** tests above you would use to evaluate if this claim, “to reduce fever you must drink green tea in the morning”, is **true**.

**[2 Marks]**

**Students are expected to:**

1. Prove that the claim of “to reduce fever you must drink green tea in the morning” is true, there are two things which one needs to prove:
  - (i) Drinking green tea in the morning helps to reduce fever
  - (ii) Drinking green tea in the evening does not help to reduce fever (or it does not reduce fever well compared to drinking it in the morning)



# Markers' Feedback on Section A Question 19

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## Example of good responses:

Prove that the claim of “to reduce fever you must drink green tea in the morning” is true, there are two things which one needs to prove:

- (i) Drinking green tea in the morning helps to reduce fever
- (ii) Drinking green tea in the evening does not help to reduce fever (or it does not reduce fever well compared to drinking it in the morning)

1. The two tests that can be used to find out if the above two statements are true are test 2 and test 3. Test 2 has participants drinking green tea only in the morning and this helps to determine if statement (i) is true. Test 3 has participants drinking green tea only in the evening and this helps to determine if statement (ii) is true. If the participants from test 2 show reduction in fever while participants in test 3 do not show reduction in fever (or the reduction is not as good compared to those from test 2), then the claim that “to reduce fever you must drink green tea in the morning” can be said to be true.



# Markers' Feedback on Section A Question 19

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## Example of good responses:

2. Test 1 and test 3 can be used. If the participants for test 3 do not show any reduction in fever, then it means statement (ii) above is true. Then if the participants in test 1 show reduction in fever, it means that the reduction in fever is most likely due to the drinking of green tea in the morning and NOT the evening (if participants in test 3 does not show any reduction in fever). So in order to say that the claim of “to reduce fever you must drink green tea in the morning” is true, one must have participants in test 1 to show reduction in fever and participants in test 3 do not show any reduction in fever.



# Tips on how to do well for your ESE/MUE

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- 1) Read the contexts and questions carefully.
  - This will prevent careless mistakes.
- 2) Answer specifically to what the question is asking.
  - Apply what you have learnt to answer the question instead of copying directly from 6<sup>th</sup> P or revision packages.
  - Give specific reasons instead of just a general statement when you are asked to explain your answer (e.g. “This statement is not credible because he is using his knowledge of the old price which is no longer valid in present day to make comparison (anchoring bias).” is better than “This statement is not credible because his argument is flawed.”).



# Tips on how to score your MSA and ESE

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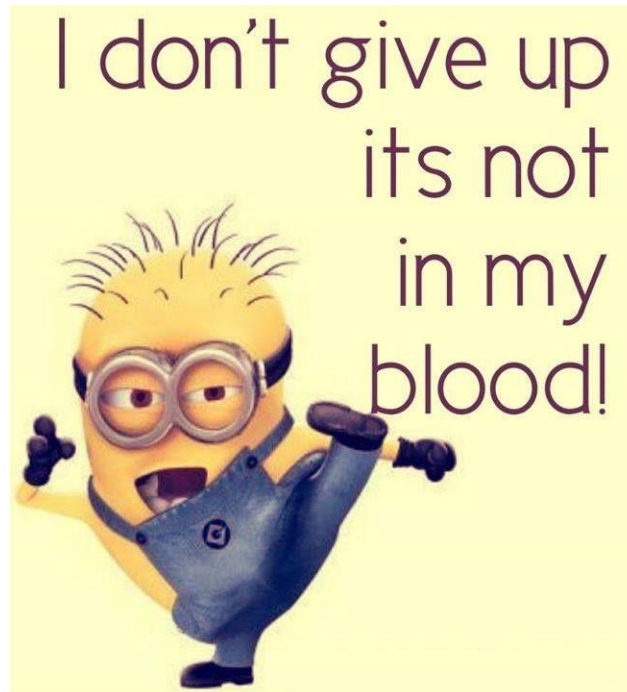
- 3) Revise your weekly Quiz questions and revision packages.
- 4) Allocate your time properly.
  - Make sure you attempt every question.
  - Spend the appropriate amount of time for each question depending on the marks allocated. Do not spend too much in answering on any question, especially questions with low marks (e.g. 1 mark).
- 5) Clear any doubts you have with your lecturer before your examinations.

This is **only** the MSA.

You still have plenty of opportunities to excel in ESE.

Revise and prepare yourself well for your next exam.

**Wishing you all the best!**



End

