## Research Based Curricu<u>la</u>





### Resource One Model Answers



#### Answers Questions from Data Source

Minecraft 1.0 was released on 18<sup>th</sup> November 2011 (www.wikipedia.com)

The annual mean temperature in England is around 18.7 degrees Celsius in 2018 (www.statistica.com)

1

- 1. Representativeness, Availability, Anchoring and adjustment, Overconfidence.
- 2. In 1974 by Kahneman and Tversky.
- 3. The specific similarity of events and the brightest, memorable information.
- 4. When was the first iPhone released? Try to guess given that iPhone X was released in 2017.
- 5. Depending on the quality of the anchor. If this anchor is off, then it can harm your estimate. Otherwise, it could be helpful.

2

- Transport crashes or Diabetes (1,970 vs 5,223 in 2010)
- Skin diseases or Alcohol Consumption (1,869 vs 673 in 2010)
- Drugs (ie heroin) or Falls on and from stairs/steps (344 vs 655 in 2010).

What heuristics do you use here? Availability heuristics, because of TV and media coverage of crashes, alcohol and drugs more often than any other series of diseases.

#### 3

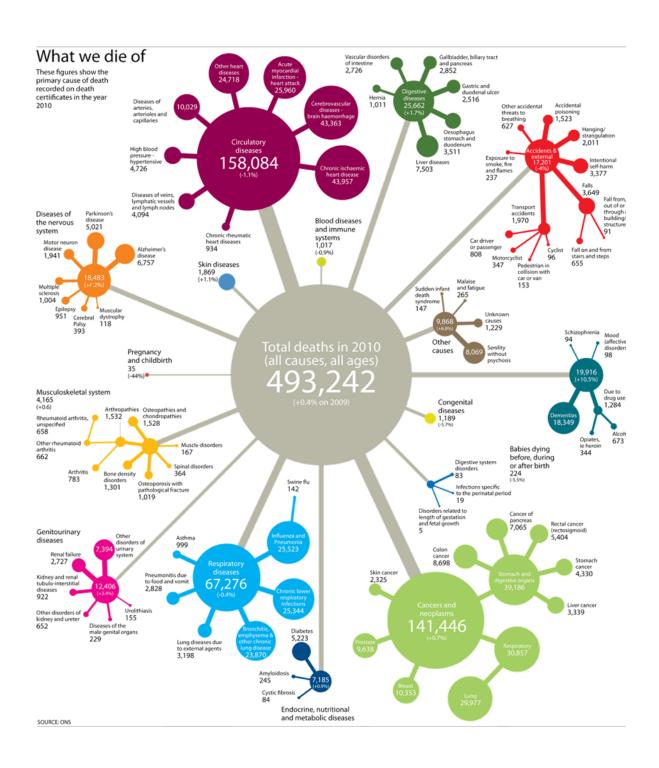
According to "The least and most popular undergraduate courses in the UK"

(https://www.timeshighereducation.com/student/news/least-and-most-popular-undergraduate-courses-uk#survey-answer), the Score 1 column should have this ranking: Medicine, Business, Biology, Social studies, Creative Arts, Math, Computer Science, Architecture. There is no correct answer for the Score 2 column since it mostly depends on your experience and stereotypes.

## Resource One Model Answers



#### **Answers**



## Resource Two Model Answers



#### Answers 1

- Simply all decisions that a person makes.
   Examples: what university to go to, what TV series to watch next.
- 2. Try to be objective as much as possible; to avoid motivational biases and politics.
- 3. "Cautious, humble, openminded and analytical".
- 4. They were more flexible and reactive to new information coming while willing to accept mistakes in the past.
- 5. The main conclusion that we try to highlight is that you need to be careful with individual decisions since there are many human biases and faults.

# 2 Based on <a href="https://www.managementstudyguide.com/individual-decision-making.htm">https://www.managementstudyguide.com/individual-decision-making.htm</a>

| Advantages  | Disadvantages   |
|---|---|
| An individual generally makes quick decisions without biases to other's views and opinions and takes less time to organise and produce. | A group has the potential of collecting more and full information compared to an individual while making decisions. |
| Individuals do not escape responsibilities. They are accountable for their acts and performance.  | An individual while making any decision uses his intuition and views.   |
| Individual decision making saves time,<br>money and energy as individuals make<br>prompt and logical decisions generally.               | A group discovers hidden talent and core competency of employees of an organisation.                                |
| Individual decisions are more focused and rational as compared to the group.  | An individual will not take into consideration every members interest.  |

3

In this particular case, January sales were around 60 units. But it depends on the data and seasonality, which is hard to understand from the time series plot.

## Resource Three Model Answers



#### Answers 1

- The Delphi Method includes several rounds of individual questionnaires with the general feedback on the results which allows to reach a better consensus without group interaction biases.
- 2) Experts/executives from different departments.
- 3) Jury of Experts has a group interaction element, while The Delphi Method does not. Also, there is no particular recommendation for participants in the Delphi Method.
- 4) Role-playing is basing on the scenario method described above but adds some dynamics of interaction among the interested parties.
- 5) The Delphi method, because it is an interesting way to extract and come to a consensus between many members of a group.

#### 2

Your answer might include factors like economic parameters; production cost; marketing information (e.g. customer preferences); specific geographical preferences; price to income ratio; previous sales of analogies.

#### 3

The first patent for a ballpoint pen was issued on 30 October 1888 to John J. Loud, who was attempting to make a writing instrument that would be able to write "on rough surfaces such as wood, coarse wrapping-paper, and other articles" which then-common fountain pens could not.

(https://en.wikipedia.org/wiki/Ballpoint\_pen)

The average group estimation should be close to the actual year (if it is needed, conduct several rounds).

## Resource Four Model Answers



#### Answers 1

- It's a system that can help make decisions; it usually includes graphical information; key parameters; all other inputs and the main output field.
- 2. It could be any application that gives you recommendations (like Amazon, Netflix, Spotify).
- 3. Make it more user-friendly: buttons, easier interface, better structure of a screen.
- 4. A lot of application and websites are actually made to take decisions not for us, but instead of us (e.g. Netflix, Amazon, Facebook and etc.)

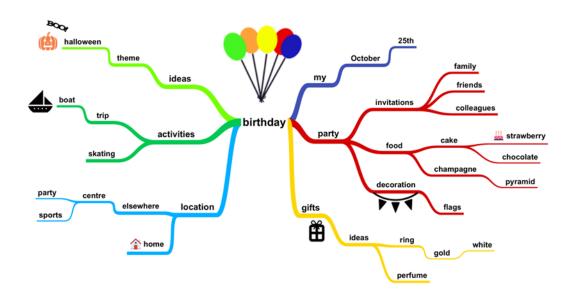
#### 2

Industry 1: Airport

Industry 2: Environmental centre; agriculture

#### 3

Possible answer. D



## Resource Five Model Answers



#### Answers 1

- 1. ASDA, Sainsbury's, Boots, Poundland.
- 2. For planning purposes, they need to distribute products and have stock for customers.
- 3. A replenishment system should check how many items are empty or have low quantity this help to avoid stockouts and keep customer satisfaction high.
- 4. There is no module for checking whether forecasts are correct or not.
- 5. It is definitely complex process that requires expertise, specialised software and a lot of time.

#### 2

- 63 patients per day
- 56 patients per day
- Many people on holidays/away. Comparing with winter, there are fewer reasons for accidents.
- Weekends are easy to explain: people relax, drink, go out – hence, more chances to get injuries, while on Mondays this effect is not so clear, but it could be just an outcome after the weekends. In order not to lose precious weekends, people tend to go to a hospital on Mondays.

## Resource Six Model Answers



#### Answers 1

- 1. Between 5 and 20 experts
- 2. 2-3 rounds are necessary
- 3. Strategic questions.
- 4. It is a way to avoid some personal biases since when writing you have to analyse and justify why and what you did.
- 5. Numeric or verbal. The key point here is that after providing feedback, they can analyse what problems/weaknesses they might have.
- 6. For providing feedback, but also for learning purposes (new staff or software).



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hello@access-ed.ngo



100 Black Prince Road London, SE1 7SJ



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