RBI PHASE 1 RECAP

26th JULY ‘18

QUANT – DATA INTERPRETATION (PIE CHART)
Explanation of the term Data Interpretation
First, let’s discuss the word “Data” and “Interpretation” used in Data Interpretation.

Data:
Data is based on facts and statistics collected together for reference or analysis. Data in numerical format helps us to draw conclusions by comparing the data.

Interpretation:
Interpretation is the act of explaining, re-framing or otherwise showing your own understanding of something.

Data Interpretation:
Data interpretation is an act of analysing data with the objective to gain useful information from it. It is done to draw conclusions from the given data. Different statistical tools are used to represent the data in organized structures.
Different method in which data can be presented to solve Data Interpretation Questions:

Different methods to solve data Interpretation questions are:
1) Table chart
2) Bar Chart
3) Pie Chart
4) Line Graph

PIE CHART
A graph in the form of a circle divided into sectors in which relative quantities are indicated by the proportionately different sizes of the sectors. The total of the percentages is equal to 100 (this is important; if it were not, the accuracy of the graph would be suspect). The total of the arc measures is equal to 360 degrees.
I.1) These questions are based on the following information and the pie charts given. The following pie charts show the U.S. agricultural exports to Cuba in the year 2005 and 2014.

**U.S. agricultural exports to Cuba**
Q.1) From 2005 to 2014, which of the following products shows the maximum percentage increase in revenue by the U.S. agricultural exports to China?

[a] soya bean meal  
[b] poultry meat and products  
[c] others  
[d] corn

Solution (a)

Formula of % change = \((\text{new %} - \text{old %}) / \text{old %} \times 100\)

The percentage change in the soya bean meal is
\[(25\% \text{ of } 300 - 5\% \text{ of } 326) - 5\% \text{ of } 326 \times 100\]
\[= [(25\% \text{ of } 300) / (5\% \text{ of } 326) - 1] \times 100\]

Now, \(300/326\) will be common for all the products. We need not to calculate the entire percentage. It would be sufficient if we observe the percentage increase in the percentage of the respective products.

i.e., for soya bean meal 5% to 25% which is <200%
for poultry meat and products 20% to 44% which is <100%
for others 11% to 10% which is a decrease
for corn 15% to 9% which is also a decrease

Hence, maximum % increase in the soya bean meal shown.
I.2) These questions are based on the following information and the pie charts given. The following pie charts show the U.S. agricultural exports to Cuba in the year 2005 and 2014.

**U.S. agricultural exports to Cuba**

- **2005 - revenue $326 million**
- **2014 - revenue $300 million**

Pie charts showing the composition of agricultural exports in both years.
Q.2) In 2005, revenue from butter and cheese form 60% of the total dairy products. In 2014, revenue from them form 80% of the total dairy products. What is the percentage change in the export of dairy products other than butter and cheese?
[a] 61% decrease
[b] 61% increase
[c] 56.4 decrease
[d] 56.4 increase

Solution (a)
Share of dairy products in the total production in 2005 and 2014 is 7% of 326 i.e., 22.82 and 5% of 300 i.e., 15 respectively.
Share of dairy products excluded butter and cheese
(In 2005) 22.82-13.692 = 9.128
(In 2014) 15-12= 3
Required percentage = (9.128 – 3)/9.128 = 67.1% decrease
I.3) These questions are based on the following information and the pie charts given. The following pie charts show the U.S. agricultural exports to Cuba in the year 2005 and 2014.

U.S. agricultural exports to Cuba

- **2005 - revenue $326 million**
  - Poultry meat and products: 11%
  - Soybean: 11%
  - Soybean meal: 16%
  - Soybean oil: 5%
  - Corn: 20%
  - Dairy products: 4%
  - Rice: 7%
  - Others: 15%

- **2014 - revenue $300 million**
  - Soybeans: 44%
  - Corn: 25%
  - Poultry meat and products: 10%
  - Soybean meal: 7%
  - Soybean oil: 9%
  - Dairy products: 5%
  - Others: 7%
Q.3) If the rate per egg is RS. 8 in 2005 as well as in 2014, then what is the percentage change in export of eggs in poultry products from 2005 to 2014, given that 50% of its total revenue is from eggs in both the years?

[a] 53.25% increase  
[b] 106.25% decrease  
[c] 106.25% increase  
[d] cannot be determined

Solution (c)
Eggs share in poultry products in:
2005 = $\frac{1}{2} \times 20\%$ of 326
= RS. 32.6 million
2014 = $\frac{1}{2} \times 44\%$ of 300
= RS. 66 million
Eggs production in 2005 = $\frac{32.6}{8} = 4$ million
Eggs production in 2014 = $\frac{66}{8} = 8.25$ million
There is an increase of 4.25 million eggs
Required percentage = $\frac{4.25}{4} \times 100 = 106.25\%$
I.4) These questions are based on the following information and the pie charts given. The following pie charts show the U.S. agricultural exports to Cuba in the year 2005 and 2014.
Q.4) If the percentage decrease in the revenue of the agricultural products by corn and others in 2020 from 2014 is the same as the percentage decrease from 2005 to 2014, then what is the difference in share of revenue between these products in the year 2020 from that of 2014?

[a] 11.11 %
[b] 2%
[c] 22.2%
[d] cannot be determined

Solution (d)
We can find the revenue of corn and others for the year 2020 but the total revenue by agricultural products in 2020 cannot be found.
These questions are based on the following information and the pie charts given. The following pie charts show the U.S. agricultural exports to Cuba in the year 2005 and 2014.

**U.S. agricultural exports to Cuba**

*2005 - revenue $326 million*

- Corn: 20%
- Soybean: 16%
- Soybean meal: 15%
- Soybean oil: 11%
- Dairy products: 11%
- Wheat: 11%
- Rice: 7%
- Poultry meat and products: 5%
- Others: 4%

*2014 - revenue $300 million*

- Corn: 44%
- Soybean meal: 25%
- Soybeans: 10%
- Dairy products: 9%
- Others: 5%
- Wheat: 7%
- Rice: 4%
- Poultry meat and products: 2%
Q.5) If the revenue gained by ‘rice’ export in the year 2005 transfers to the category ‘others’ (in the same year), then the angle made by ‘others’ in 2005 is?

[a] 64.8 degree
[b] 79.2 degree
[c] 71.72%
[d] none of these

Solution (b)
Revenue gained by rice export = 11%
Revenue gained by ‘others’ export = 11%
Revenue gained by ‘others’ after transfer = 22%
Angle = \( \frac{22 \times 360}{100} = 22 \times 3.6 = 79.2 \) degree