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| **F Unit 3: Charts, tables and graphs** | **Road Map** | | | | | |
| In this unit you will learn about number. The aims are as follows:  **LG1**: Knowledge  **LG2**: Application  **LG3**: Skills | Assessment Grades |  |  | | | |
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| **Themes** | **Learning Goals/Outcomes/Content** | | |  |  |  |
| 3a tables | Use suitable data collection techniques (data to be integer and decimal values); | | |  |  |  |
| Design and use data-collection sheets for grouped, discrete and continuous data, use inequalities for grouped data, and introduce ≤ and ≥ signs; | | |  |  |  |
| Interpret and discuss the data; | | |  |  |  |
| Sort, classify and tabulate data, both discrete and continuous quantitative data, and qualitative data; | | |  |  |  |
| Construct tables for time–series data; | | |  |  |  |
| Extract data from lists and tables; | | |  |  |  |
| Use correct notation for time, 12- and 24-hour clock; | | |  |  |  |
| Work out time taken for a journey from a timetable; | | |  |  |  |
| Design and use two-way tables for discrete and grouped data; | | |  |  |  |
| Use information provided to complete a two-way table; | | |  |  |  |
| Calculate the total frequency from a frequency table; | | |  |  |  |
| Read off frequency values from a table; | | |  |  |  |
| Read off frequency values from a frequency table; | | |  |  |  |
| Find greatest and least values from a frequency table; | | |  |  |  |
| Identify the mode from a frequency table; | | |  |  |  |
| Identify the modal class from a grouped frequency table. | | |  |  |  |
| 3b Charts and graphs | Plotting coordinates in first quadrant and read graph scales in multiples; | | |  |  |  |
| Produce: pictograms; composite bar charts; dual/comparative bar charts for categorical and ungrouped discrete data; bar-line charts; vertical line charts; line graphs; line graphs for time–series data; histograms with equal class intervals; stem and leaf (including back-to-back); | | |  |  |  |
| Interpret data shown in pictograms; composite bar charts; dual/comparative bar charts; line graphs; line graphs for time–series data; histograms with equal class intervals; stem and leaf; | | |  |  |  |
| Calculate total population from a bar chart or table; | | |  |  |  |
| Find greatest and least values from a bar chart or table; | | |  |  |  |
| Find the mode from a stem and leaf diagram; | | |  |  |  |
| Identify the mode from a bar chart; | | |  |  |  |
| Recognise simple patterns, characteristics, relationships in bar charts and line graphs. | | |  |  |  |

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| 3c Pie charts | Draw circles and arcs to a given radius; |  |  |  |
| Know there are 360 degrees in a full turn, 180 degrees in a half turn, and 90 degrees in a quarter turn; |  |  |  |
| Measure and draw angles, to the nearest degree; |  |  |  |
| Interpret tables; represent data in tables and charts; |  |  |  |
| Know which charts to use for different types of data sets; |  |  |  |
| Construct pie charts for categorical data and discrete/continuous numerical data; |  |  |  |
| Interpret simple pie charts using simple fractions and percentages; ,  and multiples of 10% sections; |  |  |  |
| From a pie chart: |  |  |  |
| find the mode; |  |  |  |
| find the total frequency; |  |  |  |
| Understand that the frequency represented by corresponding sectors in two pie charts is dependent upon the total populations represented by each of the pie charts. |  |  |  |
| 3d Scatter graphs | Draw scatter graphs; |  |  |  |
| Interpret points on a scatter graph; |  |  |  |
| Identify outliers and ignore them on scatter graphs; |  |  |  |
| Draw the line of best fit on a scatter diagram by eye, and understand what it represents; |  |  |  |
| Use the line of best fit make predictions; interpolate and extrapolate apparent trends whilst knowing the dangers of so doing; |  |  |  |
| Distinguish between positive, negative and no correlation using lines of best fit; |  |  |  |
| Use a line of best fit to predict values of a variable given values of the other variable; |  |  |  |
| Interpret scatter graphs in terms of the relationship between two variables; |  |  |  |
| Interpret correlation in terms of the problem; |  |  |  |
| Understand that correlation does not imply causality; |  |  |  |
| State how reliable their predictions are, i.e. not reliable if extrapolated. |  |  |  |

**Links:**

LG1: The processes that you learn in this topic will enable you to present data in a variety of different forms.

LG2: You will apply your knowledge of statistics to be able to select the most appropriate methods for presenting different sets of data, and to interpret charts and graphs.

LG3: You will use your problem-solving skills and mastery of statistics to solve complex Mathematical problems such as problems where you must make comparisons between sets of data presented in different forms.