**Level one: Research Methods checklist**

**You will need to be able to demonstrate knowledge and understanding of the following:**

1. **Research methods**
2. **Scientific processes**
3. **Techniques of data handling and analysis.**
4. **It is also important that you’re aware of their strengths and limitations.**

|  |  |  |
| --- | --- | --- |
|  | Level 3 | Level 5 |
| **Methods and techniques** |  |  |
| **Experiments**   * What is a lab experiment? * What are the advantages of a lab experiment? * What are the disadvantages of lab experiments? * What is a field experiment? * What are the advantages of a field experiment? * What are the disadvantages of field experiments?      * What is a natural experiment? * What are the advantages of a natural experiment? * What are the disadvantages of natural experiments? * What is a quasi experiment? * What are the advantages of a quasi experiment? * What are the disadvantages of a quasi experiment? * How to design an experiment. |  |  |
| **Correlational analysis**   * What is a correlational study? * What is the difference between correlations and experiments * What is a positive/negative correlation? * What are the disadvantages of a correlational study? * What are the disadvantages of correlational study? * How to design a correlation |  |  |
| **Observational techniques**   * What is an observational study? * What is a naturalistic observation? (+advantages and disadvantages) * What is a controlled observation? (+advantages and Disadvantages) * What is a covert and overt observation? (+ advantages and disadvantages) * What is a participant and non-participant observation? (+ advantages and disadvantages) * How to design an observation |  |  |
| **Self report techniques**   * What is a questionnaire? (+ advantages and disadvantages) * What is an interview? * What is a structured interview? (+ advantages and disadvantages) * What is an unstructured interview? (+ advantages and disadvantages) * How to design questionnaires and interviews. |  |  |
| **Case studies**   * What is a case study? * What are the advantages of case studies? * What are the disadvantages of case studies? |  |  |
| **Content analysis**   * What is a content analysis? * What are the advantages of a content analysis? * What are the disadvantages of a content analysis? |  |  |
| **Investigation design** |  |  |
| * Aims   -stating aims,  -difference between aims and hypotheses   * Hypotheses   - Directional/one tailed hypothesis  - Non-directional/ two tailed hypothesis  - Null hypothesis  - Operationalised hypotheses   * Sampling   - The difference between population and sample  - Opportunity sample (+advantages and disadvantages)  - Random sample (+advantages and disadvantages)  - Volunteer sample (+advantages and disadvantages)  - Systematic sample(+advantages and disadvantages)  - Stratified sample (+advantages and disadvantages)   * Pilot studies and the aims of pilot studies * Experimental design   - Independent groups (+advantages and disadvantages)  - Repeated measures (+advantages and disadvantages)  - Matched pairs (+advantages and disadvantages)   * Observational design   - Time and event sampling (+ advantages and disadvantages)  *-*  Behavioural categories? (you must be able to create operationalised behavioural categories)   * Questionnaire construction   - The use of open and closed questions (+advantages and disadvantages)   * Designing interviews * Variables   -Independent variable  -Dependent variable  -Co-variables (correlation)  - Operationalisation of variables  -Extraneous variables (and how they can be controlled)  -Confounding variables (and how they can be controlled)   * Control   - random allocation & how to do this  - counterbalancing & how to do this  - randomisation & how to do this  - standardisation & how to do this   * Demand characteristics and investigator effects * Ethics   - the role of BPS guidelines  - ethical issues in the design and conduct of psychological studies  - dealing with ethical issues in research   * The implication of psychological research for the economy * Reliability   -what is reliability?  - definition of inter-rater reliability and how this is used to assess the reliability of observations   * Validity   - what is validity?  - types of validity – internal and external (ecological, temporal, population) |  |  |

|  |  |  |
| --- | --- | --- |
| **Data handling and analysis** |  |  |
| * Quantitative and qualitative data   - the distinction between these data collection techniques   * Primary and secondary data (+ advantages and disadvantages)   -including meta-analysis (+advantages and disadvantages)   * Descriptive statistics   Measures of central tendency   * Mean (+ advantages and disadvantages) and calculation * Mode (+ advantages and disadvantages) and calculation * Median (+ advantages and disadvantages) and calculation   Measures of dispersion   * Range (+ advantages and disadvantages) and calculation * Standard Deviation (+ advantages and disadvantages)   Calculation of percentages  Positive, negative and zero correlations   * Presentation and display of quantitative data   -graphs  -tables  -scattergrams  -bar charts  - histograms   * Distributions   -normal and skewed distributions  -characteristics of normal and skewed distributions   * Analysis and interpretation of correlation, correlation co-efficients * Qualitative data analysis - content analysis and thematic analysis * Introduction to statistical testing   - calculating of the sign test  - interpreting the significance of the sign test |  |  |

**Research methods taught in the second year (but you will need to know first and second year research methods for paper 2)**

|  |  |  |
| --- | --- | --- |
| * Probability and significance:   -use of statistical tables and critical values in interpretation of significance;  -Type I and Type II errors.  • Factors affecting the choice of statistical test,  -including level of measurement and experimental design.  When to use the following tests:  -Spearman’s rho,  -Pearson’s r,  -Wilcoxon,  -Mann-Whitney,  -related t-test,  -unrelated t-test  -Chi-Squared test. |  |  |