ANSWER KEY & MARKING SCHEME · CBSE CLASS 11

Methods of Enquiry in Psychology

Psychology · Chapter 2 · Use this with the Board Paper · Companion to Quick Drill

HOW TO USE

Attempt the Board Paper first (closed-book, full time). Then come here. For 2-mark+ questions, compare your answer to the model. For 3-4 mark questions, also consult the **Topper Templates** below — these show the exact step-by-step structure that scores full marks per CBSE marking-scheme conventions.

MODEL ANSWERS · BOARD PAPER

Section A — Very Short Answer (1 mark each, 4 Qs)

Q1. Name the variable that the experimenter manipulates in an experiment. [1 mark]

Ans: The independent variable (IV).

Q2. What is debriefing? [1 mark]

Ans: Debriefing is informing participants of the true nature and purpose of a study after it is over, especially when some information was withheld during the study.

Q3. Give one example of qualitative data. [1 mark]

Ans: An interview transcript describing how a student feels about exams (any descriptive, word-based information capturing meaning).

Q4. State the meaning of a positive correlation. [1 mark]

Ans: A relationship in which both variables move in the same direction — as one increases, the other also increases.

Section B — Short Answer I (2 marks each, 3 Qs)

Q5. Differentiate between naturalistic and controlled observation. [2 marks]

Ans: In naturalistic observation, behaviour is observed in its real-life setting without any interference by the observer (e.g. watching children in a playground); its strength is realism but conditions cannot be controlled. In controlled observation, behaviour is observed in a structured or laboratory setting where conditions are pre-arranged, giving more control but less naturalness.

Q6. Why does correlation not imply causation? Explain with an example. [2 marks]

Ans: A correlation shows only that two variables vary together, not that one causes the other; the relationship may be due to a third variable. For example, ice-cream sales and drowning deaths are positively correlated, but ice-cream does not cause drowning — a third variable, hot summer weather, raises both. Only a controlled experiment can establish cause and effect.

Q7. Distinguish between a survey and a case study. [2 marks]

Ans: A survey gathers a limited amount of information from a large number of people (wide but shallow), usually through questionnaires, to find out opinions or trends. A case study is an in-depth, detailed study of a single individual, group or event over time using many sources (narrow but deep). In short, a survey trades depth for breadth, a case study breadth for depth.

Section C — Short Answer II (3 marks each, 3 Qs)

Q8. State and explain the goals of psychological enquiry. [3 marks]

Ans: The goals are: (i) DESCRIPTION — accurately recording what behaviour occurs; (ii) PREDICTION — forecasting when or whether a behaviour will occur; (iii) EXPLANATION — identifying why a behaviour occurs and its causes; (iv) CONTROL — being able to bring about, sustain or stop a behaviour; and (v) APPLICATION — using this knowledge to improve human welfare and solve real problems. Each later goal builds on the earlier ones, and application is the unifying practical aim.

Q9. Explain the experimental method, defining the independent variable, the dependent variable and the control group. [3 marks]

> **Ans:** The experimental method is a controlled procedure in which the researcher manipulates one variable to study its effect on another while holding other variables constant; it alone can establish cause and effect. The INDEPENDENT variable (IV) is the one the experimenter manipulates (the assumed cause); the DEPENDENT variable (DV) is the one measured for change (the assumed effect). The CONTROL group is treated exactly like the experimental group except that it does NOT receive the IV, serving as the baseline so any difference in the DV can be attributed to the IV. (1 mark each for IV, DV and control group.)

Q10. Describe the steps involved in conducting scientific psychological research. [3 marks]

> **Ans:** The main steps are: (i) identifying the PROBLEM or research question; (ii) framing a testable HYPOTHESIS — a tentative statement of the expected relationship; (iii) COLLECTING data using an appropriate method (observation, experiment, survey, etc.); (iv) ANALYSING the data (quantitatively or qualitatively); and (v) drawing a CONCLUSION — accepting, rejecting or revising the hypothesis in the light of the evidence, which may lead to new questions. Following these steps in order is what makes psychology systematic and self-correcting.

Section D — Case Study / Long Answer (5 and 6 marks, 2 Qs)

Q11. Compare the observational, correlational and experimental methods, bringing out one strength and one limitation of each, and state which one can establish cause and effect. [5 marks]

> **Ans:** OBSERVATION studies behaviour as it actually happens; its strength is realism (real, spontaneous behaviour), but its limitation is that the observer's presence may change behaviour and it cannot establish why a behaviour occurs. CORRELATIONAL research measures how two variables vary together (positive, negative or zero); its strength is that it lets us study relationships we cannot manipulate and make predictions, but its limitation is that correlation does NOT imply causation (a third variable may be responsible). The EXPERIMENTAL method manipulates an independent variable while controlling others; its strength is that it is the ONLY method that can establish a cause-and-effect relationship, but its limitation is that the artificial, controlled setting may be unnatural and some experiments are impractical or unethical. Therefore only the experimental method can establish cause and effect. (Marks: roughly 1.5 per method for strength + limitation, plus 0.5 for correctly identifying the experiment as the causal method.)

Q12. Read the passage and answer the parts that follow. A psychologist wants to find out whether listening to soft background music while studying improves students' memory. She divides volunteers into two groups: one studies with soft music playing, the other studies in silence. Afterwards both groups take the same memory test, and their scores are compared. Before the study she explains its purpose to the volunteers and assures them their scores will be kept private. (a) Name the method being used. (b) Identify the independent variable and the dependent variable. (c) Which group is the control group, and why is it needed? (d) Name and explain any TWO ethical safeguards the psychologist is following in this study. (e) Could she have used a correlational study instead to prove that music CAUSES better memory? Give a reason. [6 marks]

> **Ans:** (a) The EXPERIMENTAL method. (b) The INDEPENDENT variable is the presence or absence of soft background music (manipulated); the DEPENDENT variable is the memory-test score (measured). (c) The group that studies in SILENCE is the control group, because it does not receive the treatment (music) and provides the baseline against which the music group is compared, so any difference in scores can be attributed to the music. (d) Any two, e.g.: INFORMED CONSENT — she explains the study's purpose so volunteers agree freely; CONFIDENTIALITY — she assures them their individual scores will be kept private and not disclosed. (Other valid: voluntary participation, no harm, debriefing.) (e) No — a correlational study only shows whether two variables vary together; it cannot prove that music CAUSES better memory, because a third variable could be responsible. Only a controlled experiment, which manipulates the variable, can establish causation. (Marks: 1 + 1 + 1 + 2 + 1.)

★ TOPPER ANSWER TEMPLATES — 3 TEMPLATES · MEMORISE THE FORMAT

★ TOPPER TEMPLATE — 3-4 mark question: 'What are the goals of psychological enquiry?' / 'Explain the goals of scientific psychology.'

Almost every annual and SQP

Step 1 [1 mark]	**List the goals upfront**	Open by naming all the goals together so the examiner sees the full set immediately: 'The goals of psychological enquiry are DESCRIPTION, PREDICTION, EXPLANATION and CONTROL, with the ultimate aim of APPLICATION for human welfare.' Listing them first earns the anchor mark even before you elaborate.
Step 2 [2 marks]	**Explain each goal in one line with an example**	Then take each in turn: DESCRIPTION — accurately recording WHAT behaviour occurs (e.g. describing how children play); PREDICTION — forecasting WHEN/IF a behaviour will occur (e.g. predicting exam performance from study hours); EXPLANATION — identifying WHY a behaviour occurs, its causes; CONTROL — being able to bring about, sustain or stop a behaviour (e.g. reducing exam anxiety). One crisp example each converts recall into understanding marks.
Step 3 [1 mark]	**Close with application / human welfare**	Finish by noting that the practical purpose tying all four goals together is APPLICATION — using the knowledge to improve the quality of human life and solve real problems. This closing sentence shows you grasp WHY psychology pursues these goals and lifts the answer to full marks.

COMMON LOSS OF MARKS:

- Listing only description and prediction and forgetting explanation and control.
- Defining the goals abstractly with no example — examiners reward the concrete instance.
- Omitting the application/human-welfare aim, which is the unifying purpose.

★ TOPPER TEMPLATE — 5-mark question: 'Explain the experimental method' / 'Distinguish between IV and DV and between experimental and control groups.'

Annual + Pre-Board

Step 1 [1 mark]	**Define the experimental method**	Begin: 'The experimental method is a controlled procedure in which the researcher systematically MANIPULATES one variable to observe its effect on another, while holding all other (extraneous) variables constant. It is the only method that can establish a cause-and-effect relationship.' Stating that it alone proves causation earns the opening mark.
Step 2 [2 marks]	**Define IV, DV and control of variables**	Then the variables: the INDEPENDENT variable (IV) is the one the experimenter manipulates (the assumed cause); the DEPENDENT variable (DV) is the one measured for change (the assumed effect). All other RELEVANT/EXTRANEOUS variables must be controlled so they do not confound the result. Use a clean example: 'To study whether noise affects concentration, noise level is the IV and the concentration-test score is the DV.'
Step 3 [2 marks]	**Experimental vs control group + conclusion**	Finally the groups: the EXPERIMENTAL group receives the IV (the treatment); the CONTROL group is identical in every way but does NOT receive it, serving as the baseline. Because the two groups are otherwise equivalent (ideally by random assignment), any difference in the DV can be attributed to the IV. End by noting this comparison is what lets the experiment claim cause and effect.

COMMON LOSS OF MARKS:

- Swapping the IV and DV definitions — instant loss of a mark.
- Saying the control group gets a 'smaller' treatment instead of NO treatment.
- Forgetting to mention that other variables must be controlled, which is what makes it an experiment.

★ TOPPER TEMPLATE — 4-6 mark case-study: a research problem is described and the student must NAME the appropriate method, justify it, and (often) state the ethical safeguards.

SQP case-study + Annual

Step 1 [1 mark]	**Identify the correct method**	Read the stem for the cue. 'Wants to establish whether X causes Y' -> EXPERIMENT; 'wants opinions of a large number of people' -> SURVEY; 'wants deep detail on one person' -> CASE STUDY; 'wants to see how X and Y vary together (without manipulating)' -> CORRELATIONAL; 'wants to watch behaviour in a real setting' -> NATURALISTIC OBSERVATION. Name the method first and clearly.
Step 2 [2 marks]	**Justify with the stem + name the variables**	Give the method's one-line definition, then tie it to the passage: 'Because the researcher wants to test whether background music IMPROVES memory, an experiment is needed; the IV is the presence/absence of music and the DV is the memory-test score.' Linking the definition to the specific cue and naming IV/DV (where relevant) is where the application marks live.
Step 3 [1 mark]	**State an ethical safeguard or limitation**	Finish with ethics or a limitation: 'The researcher must obtain informed consent, keep the participants' scores confidential, and debrief them afterwards.' Adding the ethical dimension (or one limitation of the chosen method) secures the final mark and shows mature, responsible understanding.

COMMON LOSS OF MARKS:

- Naming a method but not justifying it with the cue from the passage.
- Choosing correlation when the question clearly needs a cause-effect experiment.
- Skipping the ethics/limitation part that the case-study explicitly asks for.

MARKING SCHEME — GENERAL NOTES

- For the experiment question, the independent and dependent variables must be correctly identified and not swapped; a swap caps the answer.
- For correlation questions, full marks require stating BOTH that correlation shows a relationship AND that it does not prove causation, with a third-variable example.
- When goals of enquiry are asked, all goals should be listed; explanation and control are the ones students most often omit.
- Case-study method-identification needs the method NAME plus a justification drawn from the passage — name alone gets half marks.
- Ethics answers must name the specific safeguard (informed consent, debriefing, confidentiality, no harm) — a vague 'be ethical' earns no mark.