ANSWER KEY & MARKING SCHEME · CBSE CLASS 12

Variations in Psychological Attributes

Psychology · Chapter 1 · 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 — VSA (1 mark × 4)

Q1. Write the formula for calculating IQ. *[1 mark]*

Ans: IQ = (Mental Age / Chronological Age) × 100.

Q2. How many intelligences did Howard Gardner propose? *[1 mark]*

Ans: 8 (sometimes 9 with existential).

Q3. Name 3 components of Sternberg's triarchic theory. *[1 mark]*

Ans: Analytical, Creative, Practical.

Q4. Who proposed the PASS model of intelligence? *[1 mark]*

Ans: J.P. Das (Indian psychologist).

Section B — SA-I (3 marks × 2)

Q5. What is emotional intelligence? State 5 components per Goleman. *[3 marks]*

Ans: Emotional intelligence (EI) is the ability to recognise, understand, and manage one's own emotions + recognise + influence others' emotions. Proposed by Daniel Goleman in 1995. FIVE components: (1) SELF-AWARENESS — recognising your own emotions. (2) SELF-REGULATION — managing emotions; not being controlled by them. (3) MOTIVATION — inner drive to achieve. (4) EMPATHY — recognising others' emotions. (5) SOCIAL SKILLS — managing relationships + resolving conflicts.

Q6. How is IQ classified? Give the major ranges. *[3 marks]*

Ans: IQ classification: <70 = intellectually disabled. 70-89 = below average. 90-109 = average (most people). 110-129 = above average. 130-144 = gifted. 145+ = highly gifted / genius. Average IQ is 100; standard deviation is 15. About 68% of population scores between 85-115; about 95% between 70-130.

Section C — SA-II (5 marks × 3)

Q7. Compare Spearman's two-factor theory with Gardner's multiple intelligences theory. *[5 marks]*

Ans: SPEARMAN (1904) — TWO-FACTOR THEORY: Every mental task involves a GENERAL FACTOR (g) — overall mental capacity — AND a SPECIFIC FACTOR (s) — domain-specific ability. g is INNATE; s is acquired. Modern IQ tests measure g. GARDNER (1983) — MULTIPLE INTELLIGENCES: Howard Gardner proposed AT LEAST 8 distinct types: (1) LINGUISTIC (poets), (2) LOGICAL-MATHEMATICAL (scientists), (3) SPATIAL (architects), (4) MUSICAL (composers), (5) BODILY-KINESTHETIC (athletes), (6) INTERPERSONAL (leaders), (7) INTRAPERSONAL (self-aware), (8) NATURALIST (botanists). Each is INDEPENDENT — high in one can mean low in another. COMPARISON: Spearman sees intelligence as essentially UNITARY (g dominates); Gardner sees it as PLURAL. Spearman is PSYCHOMETRIC (test-based); Gardner is OBSERVATIONAL (real-world performance). Spearman acknowledges verbal + numerical + spatial; Gardner expands to musical + bodily + interpersonal. CRITIQUES: Spearman is criticised for being CULTURE-BIASED + missing real-world abilities. Gardner is criticised for LACK OF EMPIRICAL VALIDATION — MIs aren't measurable like g is. Both remain INFLUENTIAL. Spearman dominates psychometric measurement; Gardner shapes educational practice. CONCLUSION: Neither is right absolutely. Spearman's framework works for predicting academic performance; Gardner's framework works for valuing diverse human capacities.

Q8. Explain Sternberg's triarchic theory of intelligence with examples. ***[5 marks]***

Ans: Robert Sternberg (1985) proposed the TRIARCHIC THEORY of intelligence — arguing that intelligence has THREE distinct components rather than being a single ability. (1) ANALYTICAL INTELLIGENCE (COMPONENTIAL): The ability to analyse, judge, evaluate, compare. Measured by traditional IQ tests. Example: solving an algebra problem or analysing a poem. (2) CREATIVE INTELLIGENCE (EXPERIENTIAL): The ability to create, invent, design, generate novel solutions. Adapting to new situations. Combining unrelated ideas. Example: writing a poem, inventing a gadget, composing music. (3) PRACTICAL INTELLIGENCE (CONTEXTUAL): The ability to apply, use, implement. 'Street smarts'. Adapting to environment. 'Common sense'. Example: navigating a new city, persuading a friend, succeeding in a workplace. SIGNIFICANCE: Sternberg's theory acknowledges that ACADEMIC INTELLIGENCE (analytical) is NOT the whole picture. Creative + practical intelligences are equally important for LIFE SUCCESS. The 3-D framework helps understand human ability beyond IQ scores. Influential in education + workplace assessment.

Q9. Discuss the Indian conception of intelligence. How does it differ from Western? ***[5 marks]***

Ans: The INDIAN CONCEPTION of intelligence (rooted in ancient + modern Indian thought) is DISTINCTIVELY INTEGRAL — it combines COGNITIVE CAPACITY (buddhi) with SOCIAL and EMOTIONAL dimensions. Unlike Western (pre-Sternberg) views that focus on cognitive abilities alone, Indian thought sees intelligence as HOLISTIC. FIVE COMPONENTS (per J.B.P. Sinha + others): (1) COGNITIVE CAPACITY — sensitivity to context, understanding, problem-solving — closest to Western intelligence. (2) SOCIAL COMPETENCE — respect for elders, harmony in relationships, navigating social hierarchies. (3) EMOTIONAL COMPETENCE — self-regulation, empathy. (4) ENTREPRENEURIAL COMPETENCE — commitment, persistence, ability to act. (5) MORAL or SPIRITUAL competence — wisdom, dharma, doing what is right. DISTINCTION FROM WESTERN: Western intelligence (pre-Sternberg) focused on COGNITIVE only. Indian conception EXPLICITLY includes social + emotional + moral dimensions. This is DISTINCTIVE and increasingly validated by modern Western theories (Sternberg's practical intelligence, Goleman's emotional intelligence, multiple intelligences). SIGNIFICANCE: The Indian view provides a HOLISTIC framework that captures human capacity more fully. Modern Indian sociologists + educators advocate for integrating this framework into education — measuring not just academic ability but also social-emotional-moral capacities. The Indian conception PREDATES much of Western multi-intelligence thinking.

★ TOPPER ANSWER TEMPLATES

3 TEMPLATES · MEMORISE THE FORMAT

★ TOPPER TEMPLATE — 5-mark: 'Compare Spearman's two-factor theory with Gardner's multiple intelligences.'

Annual

Step 1 ***[1 mark]***	**Spearman (1904) — g + s**	Charles Spearman proposed TWO-FACTOR THEORY: every mental task involves a GENERAL FACTOR (g) — overall mental capacity — AND a SPECIFIC FACTOR (s) — domain-specific ability. g is INNATE; s is acquired. Modern IQ tests primarily measure g.
Step 2 ***[1.5 marks]***	**Gardner (1983) — Multiple Intelligences**	Howard Gardner proposed MULTIPLE INTELLIGENCES — at least 8 distinct types: (1) LINGUISTIC (poets, writers), (2) LOGICAL-MATHEMATICAL (scientists), (3) SPATIAL (architects, pilots), (4) MUSICAL (composers), (5) BODILY-KINESTHETIC (athletes, dancers), (6) INTERPERSONAL (leaders, therapists), (7) INTRAPERSONAL (self-aware individuals), (8) NATURALIST (Darwin, botanists). Sometimes existential added. Each is INDEPENDENT — you can be high in one and low in another.
Step 3 ***[1 mark]***	**Comparison**	FUNDAMENTAL DIFFERENCE: Spearman sees intelligence as essentially UNITARY (g dominates); Gardner sees it as PLURAL (multiple independent types). Spearman is psychometric (test-based); Gardner is observational (real-world performance). Spearman acknowledges only verbal + numerical + spatial as 'real' intelligence; Gardner expands to musical + bodily + interpersonal.
Step 4 ***[1 mark]***	**Critiques + significance**	Spearman is criticised for being CULTURE-BIASED (Western, urban, academic) + missing real-world abilities. Gardner is criticised for LACK OF EMPIRICAL VALIDATION — multiple intelligences aren't measurable like g is. Both remain INFLUENTIAL; Spearman dominates psychometric measurement; Gardner shapes educational practice (multiple ways of learning).
Step 5 ***[0.5 mark]***	**Conclusion**	Neither is right or wrong absolutely. Spearman's framework works for predicting academic performance; Gardner's framework works for valuing diverse human capacities. Both have a place.

COMMON LOSS OF MARKS:

- Confusing Spearman with Thurstone or Gardner.
- Listing fewer than 6 of Gardner's intelligences.
- Not stating the fundamental difference (unitary vs plural).
- Missing the critique step.

★ TOPPER TEMPLATE — 5-mark: 'Explain Sternberg's triarchic theory of intelligence.'

Annual

Step 1 *[1 mark]*	**Setup**	Robert Sternberg (1985) proposed the TRIARCHIC THEORY of intelligence, arguing that intelligence has THREE distinct components rather than being a single ability.
Step 2 *[1 mark]*	**Component 1 — Componential / Analytical**	ANALYTICAL INTELLIGENCE (componential): the ability to analyse, judge, evaluate, compare. Measured by traditional IQ tests. Used in academic problem-solving.
Step 3 *[1 mark]*	**Component 2 — Experiential / Creative**	CREATIVE INTELLIGENCE (experiential): the ability to create, design, invent. Combining unrelated ideas. Adapting to new situations. Generating novel solutions.
Step 4 *[1 mark]*	**Component 3 — Contextual / Practical**	PRACTICAL INTELLIGENCE (contextual): the ability to apply, use, implement. Street smarts. Adapting to environment. 'Common sense'. Often unmeasured by academic tests but critical for real-world success.
Step 5 *[1 mark]*	**Significance**	Sternberg's theory acknowledges that academic intelligence (analytical) is NOT the whole picture — creative + practical intelligences are equally important for life success. Provides a 3-D framework for understanding human ability. Has been influential in education + workplace assessment.

COMMON LOSS OF MARKS:

- Mixing up the 3 components.
- Not naming the theorist (Sternberg) or year (1985).
- Confusing with Gardner's theory.

★ TOPPER TEMPLATE — 5-mark: 'Discuss the Indian conception of intelligence.'

Most years

Step 1 *[1 mark]*	**Define + integral character**	The INDIAN CONCEPTION of intelligence (rooted in ancient + modern Indian thought) is INTEGRAL — it combines COGNITIVE CAPACITY (buddhi) with SOCIAL and EMOTIONAL dimensions. Unlike Western (pre-Sternberg) views that focus on cognitive abilities alone, Indian thought sees intelligence as HOLISTIC.
Step 2 *[2 marks]*	**5 components**	Indian intelligence has 5 components (per J.B.P. Sinha + others): (1) COGNITIVE CAPACITY (sensitivity to context, understanding, problem-solving) — closest to Western intelligence. (2) SOCIAL COMPETENCE (respect for elders, harmony in relationships, navigating social hierarchies). (3) EMOTIONAL COMPETENCE (self-regulation, empathy). (4) ENTREPRENEURIAL COMPETENCE (commitment, persistence, ability to act). (5) MORAL or SPIRITUAL competence (wisdom, dharma — doing what's right).
Step 3 *[1 mark]*	**Distinction from Western**	Western intelligence (pre-Sternberg) focused on COGNITIVE only. Indian conception explicitly includes SOCIAL + EMOTIONAL + MORAL dimensions. This is DISTINCTIVE — and increasingly validated by modern Western theories (Sternberg's practical intelligence, Goleman's emotional intelligence, multiple intelligences).
Step 4 *[1 mark]*	**Significance**	The Indian view provides a HOLISTIC framework that captures human capacity more fully. Modern Indian sociologists + educators advocate for integrating this framework into education — measuring not just academic ability but also social-emotional-moral capacities. Indian conception predates much of Western multi-intelligence thinking.

COMMON LOSS OF MARKS:

- Listing fewer than 5 components.
- Not contrasting with Western (cognitive only) view.
- Missing the holistic framing.
- Not citing the modern relevance (Sternberg + Goleman alignment).

MARKING SCHEME — GENERAL NOTES

- Theorist names + years mandatory (Spearman 1904, Gardner 1983, Sternberg 1985, Goleman 1995).
- List of intelligences/components needs at least 4-5 items for full marks on 5-mark questions.
- Indian conception must mention HOLISTIC + 5 components + distinction from Western.
- Examples (analytical algebra, creative invention, practical street smarts) carry marks.
- Concluding statement on 5-markers earns 1 mark.