

Cambridge AS & A Level · Psychology 9990 · Notes

Schizophrenia A2

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What you need to know

Schizophrenia is the first disorder in the Clinical psychology option (Papers 3 and 4). You should be able to:

1. **Diagnose it with ICD-11**: list the symptoms the ICD-11 uses, say which are **positive** and which are **negative**, and state the rules on how many symptoms and for how long.
2. **Describe a case study** of a person with schizophrenia.
3. **Describe the types of delusions**, and explain how **virtual reality** is used to investigate them, using the key study by **Freeman et al. (2003)** on persecutory ideation.
4. **Explain schizophrenia biologically**: the **genetic** explanation and the **biochemical** explanation (the **dopamine hypothesis**).
5. **Explain it psychologically**, with the **cognitive** explanation.
6. **Describe biological treatments**: **typical** and **atypical antipsychotics**, and **electro-convulsive therapy (ECT)**.
7. **Describe cognitive-behavioural therapy (CBT)** for schizophrenia, with a study such as **Sensky et al. (2000)**.
8. **Evaluate all of it**, using the issues, debates and methods the syllabus names: individual and situational explanations, using children in research, idiographic versus nomothetic, case studies, generalisations from findings, nature versus nurture, reductionism versus holism, determinism versus free will, experiments, longitudinal studies and ethics.

Understand it

What schizophrenia is

Schizophrenia is a serious mental disorder in which a person's contact with reality breaks down: they may hear things that are not there, hold beliefs that cannot be true, and find thinking, speaking, feeling and getting things done much harder than before. Psychologists split its symptoms into two groups.

- **Positive symptoms** are experiences **added** to normal life: things the person has that most people don't.
- **Negative symptoms** are normal abilities that have been **lost** or reduced.

Positive symptoms (added)	Negative symptoms (lost)
Delusions: fixed false beliefs held despite clear evidence against them	Flat (blunted) affect: little emotion shown in face or voice
Hallucinations: perceptions with no real source, most often hearing voices	Alogia: poverty of speech, saying very little
Disorganised thinking: speech that jumps between unconnected ideas	Avolition: little drive to start or finish anything, even washing
Experiences of passivity or control: feeling that thoughts or actions are put there or controlled by an outside force	Asociality: withdrawal from other people
Grossly disorganised behaviour and catatonia (odd postures, no movement, or aimless overactivity)	Anhedonia: little pleasure from things that used to be enjoyable

ICD-11 diagnostic criteria

ICD-11 is the World Health Organization's classification of disorders. For schizophrenia it requires:

- **at least two** of the symptoms in the table above (delusions, hallucinations, disorganised thinking, passivity experiences, negative symptoms, disorganised behaviour, psychomotor problems such as catatonia);
- **at least one** of those two from the **core** group: persistent **delusions**, persistent **hallucinations**, **disorganised thinking**, or experiences of **influence, passivity or control**;
- the symptoms present for **most of the time** over **one month or more**;
- the symptoms are **not caused by** another medical condition (such as a brain tumour) or by a drug or medication, including withdrawal.

A case study of schizophrenia

The mark schemes accept any genuine case study. One set that has appeared is **Aneja (2018)**, three children in India with **early-onset schizophrenia**. Learn one in detail (Case 1 is the easiest):

Case	Child	Background	Brought to the clinic because of
1	Boy, 14 , educated to class 6	Middle socioeconomic status, urban; an aggressive father; he and his mother lived with his grandparents	Falling school performance for 3 years , hearing voices for 2 years , and aggressive, violent outbursts
2	Boy, 11 , educated to class 3	Lower socioeconomic status, rural	Falling school performance for 2 years, repeating actions and irritability for a year, abnormal postures for 6 months
3	Girl, 7 , in second class	High socioeconomic status, urban	Falling school performance, irritability and abnormal behaviour for 9 months

Case studies give rich, detailed (**idiographic**) data on one person's symptoms in their real life, and can capture a rare form of the disorder, such as onset in childhood. But one child cannot represent everyone with schizophrenia (**generalisation**), and information from a person with schizophrenia may not be **reliable**: their answers may not stay **consistent** from one interview to the next, because memory, medication or new voices change what they report. Studying **children** raises extra ethical care: consent must come from parents, and the child must be protected from distress.

Delusions and their types

Type of delusion	The person believes ...
Persecutory	others are trying to harm, spy on, trick or plot against them
Grandiose	they have special powers, great talent or a famous identity
Of reference	ordinary events (a song on the radio, a stranger's glance) carry a special message for them
Of control (passivity)	an outside force controls their thoughts, feelings or actions
Thought insertion, withdrawal or broadcasting	thoughts are put into or taken out of their mind, or others can hear their thoughts
Erotomaniac	someone, often famous, is secretly in love with them
Somatic	something is badly wrong with their body, despite medical evidence

Persecutory ideation means thinking that other people intend to harm you. It is the most common delusion in schizophrenia, but milder suspicious thoughts are also common in the general population.

Key study: Freeman et al. (2003), virtual reality and persecutory ideation

Aim: to find out whether virtual reality (VR) can be used to study persecutory ideation, by checking whether a **neutral** virtual social scene would lead some people to think the computer-generated characters (**avatars**) were hostile towards them.

Why VR? In real life you can never be sure a suspicious thought is wrong: the stranger may really have been staring. In VR the researchers program the avatars to behave neutrally, so any thought that they are hostile is known to be **unfounded**, and every participant meets exactly the same scene.

Sample (learn all six features):

Feature	Detail
Size	24 participants
Sex	12 female and 12 male
Age	mean age 26
Where from	recruited at University College London (UCL)

Feature	Detail
Who	21 students and 3 administrative staff
Mental health	all mentally well : no history of mental illness (a non-clinical sample)

Patients were not used because this was a **pilot**: a new technique, untested on anyone, could have been distressing or harmful for people who already have persecutory delusions, so trying it first on them would have been unethical.

Procedure: each participant explored a virtual **library** containing neutral avatars, then completed self-reports and was asked about the avatars.

- **VR-Paranoia scale**: **15** statements about the avatars, such as "they were hostile towards me" or "they were watching me". Each was rated on a **4-point** scale from **0 to 3**: do not agree (0), agree a little (1), agree moderately (2), totally agree (3). This gives **quantitative** data.
- **Comments** about the avatars, which gave **qualitative** data.

Results: participants' readings of the same neutral avatars varied widely. Many were positive, but some had clearly persecutory thoughts. Comments the participants made (learn at least two of each, word for word):

Positive comments	Negative comments
"They looked friendly – that was my overall impression"	"They were very ignorant and unfriendly"
"It was nice when they smiled, made me feel welcome"	"Sometimes appeared hostile, sometimes rude"
"People were nicer than real people"	"They were telling me to go away"
"I smiled and chuckled"	"Some were intimidating"

Conclusions: VR can be used to investigate persecutory ideation, because a scene known to be neutral still triggered persecutory thoughts in some ordinary people. This suggests suspicious thinking lies on a **continuum** that runs from the general population into clinical paranoia.

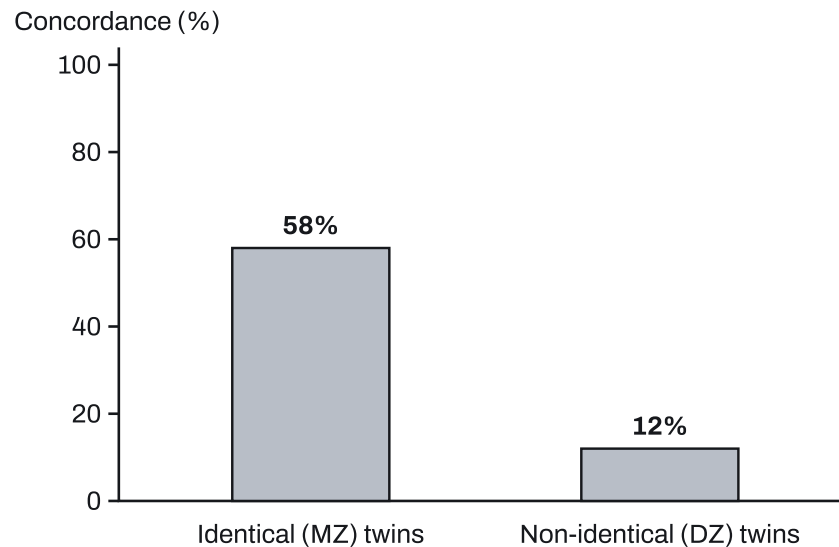
Evaluation: VR gives **control** and **standardisation** (everyone sees the same scene, so it is replicable and reliable) and is **safe** and **ethical** for exposing people to social situations. But the sample was small, non-clinical and mostly students, so it is hard to **generalise** to people with schizophrenia; participants knew the avatars were not real (lower **ecological validity**); self-reports may suffer from **social desirability**; and some people get **simulator sickness**. Rating-scale data show how strongly someone agreed but not **why**, while comments show why but are hard to compare.

Explanation 1: genetic

Schizophrenia runs in families, and the closer the genetic relationship, the higher the risk. The evidence comes from three kinds of study, reviewed by **Gottesman and Shields (1972)**:

- **Twin studies** compare **concordance**: the chance that if one twin has schizophrenia, the other has it too. Identical (**MZ**) twins share all their genes; non-identical (**DZ**) twins share about half. In Gottesman and Shields' own study, concordance was **58%** for MZ twins and **12%** for DZ twins.

- **Adoption studies:** children adopted away from a biological parent with schizophrenia still have a raised rate of the disorder, even though they grew up in a different family.
- **Family studies:** brothers and sisters of people with schizophrenia have much higher rates than the general population.



Because MZ concordance is far from 100%, genes cannot be the whole story: they seem to give a **vulnerability** that stressful experiences may trigger (the **diathesis-stress** idea). Many genes each add a small risk; no single "schizophrenia gene" has been found.

Explanation 2: biochemical (the dopamine hypothesis)

Dopamine is a neurotransmitter. The hypothesis says schizophrenia comes from dopamine working at the wrong levels in different parts of the brain:

Brain area	Dopamine	Symptoms it may cause
Mesolimbic pathway (subcortical and limbic areas, the "mid-brain" route)	Too much activity, especially at D2 receptors	Positive symptoms: hallucinations and delusions, as ordinary sights and sounds feel loaded with meaning
Prefrontal cortex	Too little activity	Negative and cognitive symptoms: flat affect, avolition, poverty of speech

Evidence for: antipsychotic drugs block D2 receptors and reduce positive symptoms; drugs such as amphetamines that raise dopamine can produce psychosis-like symptoms in healthy people and worsen them in patients. **Evidence against:** antipsychotics block receptors within hours, yet symptoms take weeks to improve; not every patient responds; and raised dopamine could be a **result** of the disorder rather than its cause.

Explanation 3: psychological (cognitive)

Frith (1992) sees the symptoms as faulty information processing.

- **Failure of self-monitoring:** normally a central monitoring system tags our inner speech and actions as "mine". If it fails, a person hears their own inner voice as someone else's: an **auditory hallucination**. Actions and thoughts that feel unowned lead to **delusions of control** and **thought insertion**.
- **Delusions as explanations:** a person who keeps hearing an outside voice needs a reason for it ("the government has put a transmitter in my head").
- **Poor theory of mind:** difficulty working out other people's intentions can lead to **persecutory** delusions ("they're plotting against me") and to social withdrawal.
- **Problems with willed action:** without the usual inner prompts, it is hard to start actions or conversations, giving **negative** symptoms such as avolition and poverty of speech.

Frith accepts that genes and brain chemistry lie underneath, but argues that the faulty thinking processes are what explain the symptoms. Supporting evidence: in Frith's tasks, patients had to judge who had spoken each item, and those whose speech was most disordered misjudged the most.

Biological treatment 1: antipsychotic drugs

	Typical (first generation)	Atypical (second generation)
When	From the 1950s , e.g. chlorpromazine , haloperidol	From the 1990s , e.g. clozapine, risperidone, olanzapine
How they work	Block D2 dopamine receptors strongly, for a long time	Block D2 receptors more loosely and briefly , and also block serotonin receptors
Symptoms helped	Mainly positive symptoms	Positive and some negative symptoms
Side effects	Movement problems (extrapyramidal): tremor, stiffness, restlessness, and tardive dyskinesia (involuntary jerky movements of the face, lips and tongue, which can be permanent); heavy sedation (the "chemical cosh")	Far fewer movement problems, but weight gain and a higher risk of diabetes; clozapine needs regular blood tests

Third-generation drugs, such as **aripiprazole**, adjust dopamine activity rather than simply blocking it, and cause fewer of the weight and metabolic side effects of the atypicals. Drugs are usually taken daily for months or years; stopping often leads to **relapse**.

Biological treatment 2: electro-convulsive therapy (ECT)

1. The patient is given a **general anaesthetic** and a **muscle relaxant**.
2. **Electrodes** are placed on the scalp, either on one side of the head (**unilateral**) or both (**bilateral**).

3. A small, carefully controlled **electric current** passes through the brain for a very short time, causing a brief **seizure**. Because of the relaxant, the body only twitches slightly.
4. The patient wakes a few minutes later and recovers. A course is usually several sessions over a few weeks.

ECT is used for **severe** cases, especially **catatonia**, or when drugs have not worked, often alongside antipsychotics. Nobody is sure how it works; it may change the release of neurotransmitters, including dopamine. Problems: confusion and **short-term memory loss**; many patients find it frightening; and many who improve relapse within 6 months (estimates range from 20% to 50%).

Psychological therapy: cognitive-behavioural therapy (CBT)

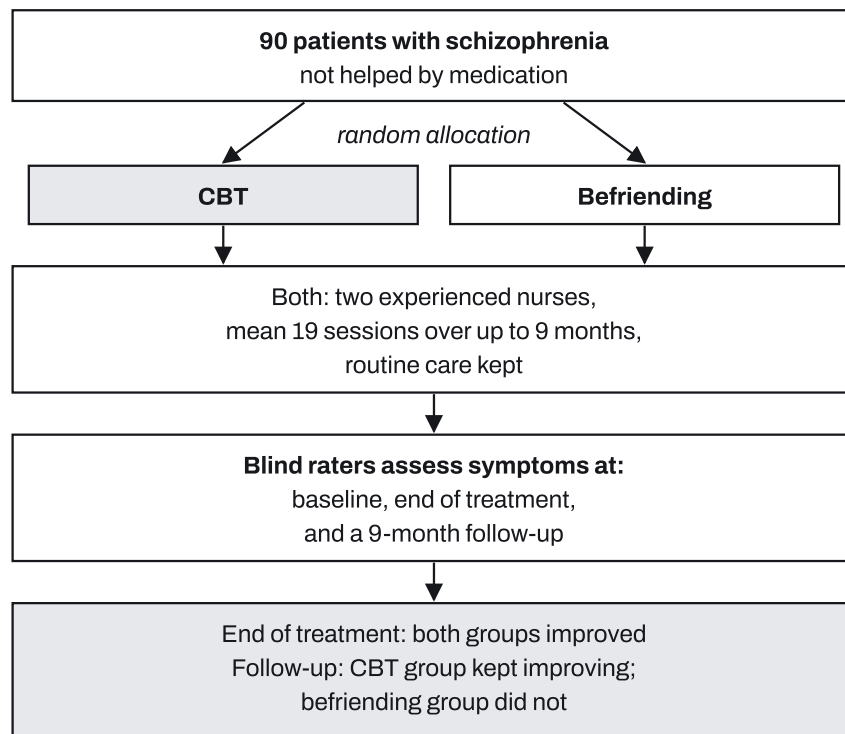
CBT does not try to cure the cause; it helps the person **manage** their symptoms by changing how they think about them.

1. **Engagement**: build a trusting relationship (a **therapeutic alliance**) and agree goals, such as worrying less about a voice.
2. **Psychoeducation**: teach the person (and family) what schizophrenia is, so that symptoms feel less frightening and the person sees they are part of an illness and not real events.
3. **Challenge the beliefs** (cognitive restructuring): look together at the evidence for a delusion and come up with more realistic explanations. A man sure that a car parked outside means he is being watched might list who else could own it.
4. **Coping strategies for voices**: testing whether the voice's claims come true, ignoring it, humming, or distraction; relaxation to lower anxiety.
5. **Homework**: keep a **diary** of when symptoms happen and what helped; practise the new thoughts between sessions.

Study: Sensky et al. (2000)

- **Aim**: to compare CBT with **befriending** (friendly chat with no therapy, a control for time and attention) for patients with schizophrenia.
- **Participants**: **90** patients aged **16–60** whose schizophrenia had **not responded to medication**; 57 from clinics in Newcastle, Cleveland and Durham, and 33 from London.
- **Design**: a **randomised controlled trial**: patients were randomly allocated to CBT or befriending. Both were given by **two experienced nurses**, who were supervised. Patients had a mean of **19** sessions over up to **9 months**, and kept their routine care (including medication).
- **Measures**: **blind** raters, who did not know the group, assessed symptoms at the start (**baseline**), at the **end of treatment** and at a **9-month follow-up**, using rating scales for psychiatric symptoms, negative symptoms and depression.
- **Results**: at the end of treatment **both** groups had improved by a similar amount, in positive and negative symptoms. At the 9-month follow-up the **CBT** group had **kept improving**, while the befriending group had not.

- **Conclusion:** CBT is effective for schizophrenia that drugs have not helped, and its benefits last after therapy ends.



Issues and debates

Debate	How it applies to schizophrenia
Nature versus nurture	Genes (twin concordance) and dopamine are nature ; stress, family life and learned ways of thinking are nurture . MZ concordance below 100% shows both matter.
Reductionism versus holism	The dopamine hypothesis is reductionist : it explains a complex disorder by one chemical, ignoring thoughts, family and culture. The cognitive explanation is more holistic : it looks at thinking processes and accepts biology underneath.
Determinism versus free will	Genes and dopamine are deterministic : the person has no control over them. CBT assumes some free will : a person can learn to question their beliefs. Patients also choose whether to keep taking drugs.
Individual versus situational	Genes, dopamine and faulty self-monitoring are individual ; stressful life events or a hostile family are situational triggers.
Idiographic versus nomothetic	Diagnostic criteria, drugs and the dopamine hypothesis are nomothetic (general laws for everyone); case studies and CBT, tailored to each person's own delusions, are idiographic .
Ethics	While psychotic, a person may not fully understand what they are agreeing to, so their informed consent to drugs or ECT is doubtful. A patient detained in hospital may receive ECT or medication they did not choose, and both carry a risk of physical harm; a talking therapy only works if the person takes part willingly.

Debate	How it applies to schizophrenia
Experiments and longitudinal studies	Sensky is a randomised experiment with blind raters (good control) and is longitudinal (change over 18 months), but long studies lose participants (attrition).

Key facts and formulas

There is no formula list in the 9990 exam. "Learn it" means you must remember it.

Fact	Status
Schizophrenia ICD-11: at least two symptoms, at least one of them delusions, hallucinations, disorganised thinking or passivity experiences, present most of the time for one month or more, not caused by another condition or a substance	Learn it
Schizophrenia positive symptoms (added): delusions, hallucinations, disorganised thinking, passivity experiences, disorganised behaviour, catatonia. Negative symptoms (lost): flat affect, alogia, avolition, asociality, anhedonia	Learn it
Freeman et al. (2003) sample: 24 participants, 12 female and 12 male, mean age 26, from UCL, 21 students and 3 admin staff, all mentally well	Learn it
Freeman et al. (2003) VR-Paranoia scale: 15 items, each rated 0–3 (do not agree, agree a little, agree moderately, totally agree)	Learn it
Gottesman and Shields schizophrenia twin concordance: 58% identical (MZ), 12% non-identical (DZ)	Learn it
Dopamine hypothesis of schizophrenia: too much dopamine (D2) in the mesolimbic pathway gives positive symptoms; too little in the prefrontal cortex gives negative symptoms	Learn it
Schizophrenia antipsychotics: typical (1950s, chlorpromazine) block D2 strongly, mainly positive symptoms, tardive dyskinesia; atypical (1990s, clozapine) block D2 briefly plus serotonin, positive and negative symptoms, fewer movement side effects	Learn it
Sensky et al. (2000): 90 drug-resistant patients aged 16–60, CBT versus befriending, two nurses, mean 19 sessions over up to 9 months, blind raters at baseline, end and 9-month follow-up; only the CBT group kept improving	Learn it
Percentage = $\frac{\text{part}}{\text{total}} \times 100$	Learn it

How to do it

We have tagged 37 questions on this topic, from 2021 to 2026 (Papers 3 and 4; 27 different questions, as variants repeat them). 13 of them have parts of more than one type, so the counts add up to 52. Questions before 2024 sometimes use the old syllabus (Freeman 2008, token economy, "delusional disorder"): learn the

current content, and use those questions for the skill they test.

Question type	Questions
Recall a key study or case study	11
Evaluate a study or the research method	9
Plan a study (Paper 4)	8
Describe and evaluate diagnosis, explanations or treatments (essay)	5
Apply explanations or treatments to a named patient	5
"To what extent do you agree" essay	4
Outline or compare explanations or treatments	4
Evaluate a treatment	3
Apply an issue or debate	3

1. Recall a key study or case study (11 questions)

One mark per correct, precise detail, so learn the tables in "Understand it".

- **Freeman sample features** (4 marks): 24; 12 female and 12 male; mean age 26; UCL; 21 students and 3 admin staff; mentally well. Don't describe the sampling technique instead (March 2026 report).
- **Comments about the avatars** (2 marks each): give them **word for word**, or very close. "They looked friendly" alone earns 1; half a comment earns 1; and turning a positive comment round ("they looked unfriendly") earns 0.
- **VR-Paranoia items and scale**: two items ("they were hostile towards me", "they were watching me"); the scale features: 4 points, 0–3, the four labels, 15 items.
- **Sensky's procedure** (4 marks): the sample (90, not helped by drugs), random allocation, CBT versus befriending, two nurses, about 19 sessions over 9 months, blind raters at three points. Give the **study**, not just a description of CBT, and don't describe a different study (November 2021 report).
- **A case study** (2 marks): the person's age and background plus their symptoms and how long they lasted, as in Aneja's Case 1.

2. Evaluate a study or the research method (9 questions)

Each point is 2 marks: name it (1), then tie it to **this** study or to schizophrenia (1). A bare "social desirability" or "demand characteristics" earns nothing (March 2026 report).

- **Why not use patients** (Freeman): a pilot of a new technique could distress people with persecutory delusions, so it would be unethical to try it on them first.
- **Paid participants**: they may feel they must carry on when they would rather stop, which matters when avatars seem hostile; or they may act differently from unpaid volunteers, so their comments and ratings may not be valid.

- **How to analyse comments: a content analysis:** judges set categories (positive, neutral, persecutory), sort each comment, then tally and use descriptive statistics, or count key words such as "friendly". "Positive and negative" alone earns 0.
- **Qualitative data:** strength, people say what they actually thought ("I smiled and chuckled"); weakness, hard to compare across participants and needs judges to interpret.
- **Likert-scale (quantitative) data:** strength, easy to compare and analyse; weakness, a number on "they were laughing at me" doesn't show why the person felt that way.
- **Strengths of VR:** a controlled, standardised setting; any persecutory thought is known to be unfounded; safe for patient and public.
- **Reliability of data from a person with schizophrenia:** you **must** say **consistency**: their answers may change between occasions because of memory problems, medication or new voices.
- **Strengths of case studies:** in-depth detail on one person; studied in their everyday life; can capture unique or rare symptoms; can act as a pilot.
- **Experimental design (old syllabus):** independent measures avoids one treatment carrying over into another. Patients know they are ill and what treatment they get, so "demand characteristics" is not a good reason (June 2023 report).

3. Plan a study (Paper 4) (8 questions)

Since 2024 this is a 24-mark question: (a) a plan [10], (b)(i) the psychology it is based on [4], (b)(ii) how two features of it shaped the plan [4], (c) three 2-mark reasons or weaknesses. Before 2024 it was "design a study" [10] plus the psychological and methodological evidence [8] (only one kind of evidence capped it at 5).

1. **Use the named method** (interview, experiment, observation, questionnaire). Using a different method scores very little (March 2026 report).
2. **Give 4–5 features specific to that method:** interview type and format, example questions and how they are scored; or IV, DV, design, controls; or observation categories, observers and setting. Add general features: sample and sampling technique, ethics (informed consent from people who may be unwell, right to withdraw, protection from harm), hypothesis, data and analysis.
3. **Use real patients.** People with schizophrenia are being treated by doctors and nurses, usually as outpatients or in hospital, not brought to a lab every week for years (June 2021 and June 2023 reports).
4. **(b)(i):** describe the **psychology** (the drugs and their side effects, the ECT procedure and its problems, CBT, Sensky), not methodology or symptoms.
5. **(b)(ii):** name two features from (b)(i) and say exactly where each appears in your plan: "atypicals have fewer movement side effects, so I asked about tremor and jerky movements". Few answers make this link (June 2021 and November 2022 reports).
6. **(c):** give the reason or weakness **and** apply it to your plan, e.g. "a volunteer sample was easy to get from an outpatient clinic, but volunteers may be those whose drugs are working best", or "a structured interview gave every patient the same questions in the same order, so their answers about side effects could be compared". No evaluation of the plan is needed in (a).

4. Describe and evaluate diagnosis, explanations or treatments (essay) (5 questions)

Paper 3: (a) describe two named items [6]; (b) evaluate them including a named issue [10].

1. **(a) Describe both.** One alone caps (a) at 4 marks. The top level links each to **symptoms**: which dopamine level in which brain area gives which symptom (March 2025 report); for ECT mention the **seizure**; for CBT say how it **reduces a symptom**. No side effects and no symptom lists in (a) (November 2022 report); save all evaluation for (b).
2. **(b) Go issue by issue**, starting with the **named issue**, and for each one compare **both** items with evidence from (a). Generic points with no schizophrenia context stay in the low levels (March 2025 report).
3. **A diagnosis essay** (characteristics and assessment): in (a) give the ICD-11 criteria (how many symptoms, which core ones, one month), sort the symptoms into positive and negative with a short definition of each, and describe a case study and Freeman et al. In (b) evaluate the diagnosis itself, not explanations or treatments (November 2021 report): idiographic versus nomothetic (fixed criteria versus each person's own experience), reliability (would two clinicians agree, and does the person report consistently?), validity (do the categories capture the real disorder?) and cultural differences in what counts as a delusion.
4. Good issues: the named one, then nature versus nurture, determinism, individual versus situational, idiographic versus nomothetic, ethics, usefulness, generalisation, Sensky as an experiment and longitudinal study.

5. Apply explanations or treatments to a named patient (5 questions)

Paper 3, 4 marks. Every point must use the patient's details.

- **Why atypicals suit the patient** (2 reasons × 2): they treat **negative** symptoms too (so his lack of motivation could lift), and have **fewer side effects** such as tardive dyskinesia, so he is more likely to keep taking them. State why this makes atypicals **better than typical**s.
- **CBT for a positive symptom**: name the symptom (her belief that she is being followed); psychoeducation **with** a definition; challenge the belief and suggest alternatives; a diary as homework; Sensky's finding that CBT's gains lasted 9 months longer than befriending's. Socratic questioning, or searching for causes in childhood, earns nothing.
- **A biological cause**: genes (MZ concordance 58% versus DZ 12%), or too much dopamine in the mesolimbic pathway plus too little in the prefrontal cortex, linked to their symptoms. Drugs that act on dopamine help, which supports this.
- **Clues in the scenario**: an affected identical twin points to **genes**; hearing a voice others can't points to Frith's failed **self-monitoring**.

6. "To what extent do you agree" essay (4 questions)

Old Paper 4 Section C (12 marks), no marks for description alone. Outline the claim's view with evidence, then argue against it with alternatives, then judge. For "drugs work for everyone": for, easy to take and effective in many studies, with newer drugs causing fewer side effects; against, side effects lead to people stopping them,

drugs treat symptoms not causes, some patients don't respond (Sensky's sample), and CBT or ECT are alternatives. For "genes will be enough": outline the genetic explanation with Gottesman and Shields, then show how the cognitive and dopamine explanations differ from it (November 2022 report); MZ concordance below 100% leaves room for the environment. Relate every point to schizophrenia; a history of drug generations alone stays low (June 2023 report). The same balanced argument serves the essays in type 4.

7. Outline or compare explanations or treatments (4 questions)

A point plus a detail for each mark.

- **Genetic** (2): inherited vulnerability (1) + concordance higher in MZ than DZ twins, 58% versus 12% (1). Concordance is about **both twins** having it: "schizophrenia is more common in MZ twins" is wrong (March 2023 report).
- **Cognitive** (2): faulty self-monitoring (1) + own inner voice heard as someone else's (1). A biochemical or behavioural answer earns nothing (November 2021 report).
- **Typical versus atypical** (2 per difference): first generation from the 1950s versus second from the 1990s; more side effects versus fewer, **with an example** such as tardive dyskinesia for the second mark (June 2022 report).
- **How ECT is given** (4): anaesthetic and muscle relaxant; electrodes, unilateral or bilateral; brief current; seizure; recovers. Side effects are not part of "how it is used" (June 2022 report).
- **CBT versus drugs** (similarity and difference): both aim to reduce symptoms and both have evidence of success; CBT is an active talking therapy with no physical side effects, drugs are passive with side effects. Give an example for each (November 2021 report).

8. Evaluate a treatment (3 questions)

- **One weakness of antipsychotics** (2): name it (1) and explain it (1): a **passive** treatment, so the person is less involved in their recovery; **side effects** such as tardive dyskinesia make people stop; people forget doses when they feel well and **relapse**; **tolerance** lets symptoms break through. "Relapse" with no explanation earns nothing, and "it has side effects" alone is not enough (June 2021 report).
- **Strengths and weaknesses with a conclusion** (old, 5 marks): one mark each for up to four points about the treatment for schizophrenia (not about Sensky's sample size, June 2022 report), plus one for a real conclusion, a judgement such as "drugs are best combined with CBT", not a summary. ECT is a biological treatment, not a psychological one.

9. Apply an issue or debate (3 questions)

(a) outline the debate (2), (b) apply it to schizophrenia (2).

- **Reductionism**: explaining complex behaviour by breaking it into smaller, simpler parts. **Applied**: the dopamine hypothesis explains schizophrenia by one chemical acting in the brain (1), so it says nothing about the person's thoughts, upbringing or relationships (1). "It ignores the environment" alone earns 0.

- **Idiographic versus nomothetic:** the unique person and their own experience (often qualitative, case studies) versus general laws for everyone (quantitative, controlled studies). **A strength of idiographic diagnosis:** an unstructured interview lets a clinician hear exactly what a person's delusions or voices are like and how they affect their life, so the diagnosis fits them better. It must mention something specific to schizophrenia, such as a symptom.

Worked examples

Example 1

Tariq is 24. For the past two months he has believed that his neighbours put chemicals in his food to make him ill. Over the same time he has stopped going to college, says very little and shows almost no emotion when his family visits.

(a) Explain whether Tariq's symptoms could meet the ICD-11 diagnostic criteria for schizophrenia. [3]

(b) Explain how the dopamine hypothesis could account for Tariq's symptoms. [4]

(a) ICD-11 needs at least two symptoms, one of them a core symptom such as a delusion, present most of the time for at least one month (1). Tariq has a persecutory delusion (a core, positive symptom) and negative symptoms: alogia, flat affect and avolition (1). His symptoms have lasted two months, more than the one-month minimum, so he could meet the criteria, as long as a medical condition or drug use has been ruled out (1).

(b) Too much dopamine activity at D2 receptors in the mesolimbic pathway is linked to positive symptoms (1): ordinary things such as the taste of his food may feel threatening and meaningful, which could lead to his belief that the neighbours are poisoning him (1). Too little dopamine in the prefrontal cortex is linked to negative symptoms (1), which fits Tariq saying very little, showing little emotion and giving up college (1).

Example 2

From the key study by Freeman et al. (2003) on virtual reality and persecutory ideation:

(a) Calculate the percentage of participants who were students. [1]

(b) Explain why the avatars were programmed to behave neutrally. [2]

(c) Explain one strength and one weakness of using virtual reality, rather than a real public place, to investigate persecutory ideation. [4]

(a) $\frac{21}{24} \times 100 = 87.5\%$ (1).

(b) Persecutory ideation is the belief that others intend to harm you when they do not (1). If the avatars could only act neutrally, any thought that they were hostile, such as "they were telling me to go away", had to come from the participant's own thinking and not from anything the avatars did (1).

(c) Strength: VR gives control and standardisation **(1)**. Every participant met the same avatars doing exactly the same things in the same library, so differences in their comments and VR-Paranoia ratings must come from the people, which a real library full of strangers could never guarantee **(1)**.

Weakness: low ecological validity **(1)**. Participants knew the avatars were computer-generated, so they may not have reacted as they would to real strangers, and persecutory thoughts in VR may not match the ones they have in daily life **(1)**.

Example 3

(a) Describe antipsychotic drugs and cognitive-behavioural therapy (CBT) for the treatment and management of schizophrenia. **[6]**

(b) Evaluate antipsychotic drugs and CBT for the treatment and management of schizophrenia, including a discussion of determinism versus free will. **[10]**

(a) Antipsychotics. Typical antipsychotics, used since the 1950s (e.g. chlorpromazine), block dopamine D2 receptors. This lowers the excess dopamine activity in the mesolimbic pathway that is linked to positive symptoms, so hallucinations and delusions become less intense. Atypical antipsychotics (e.g. clozapine) block D2 receptors more briefly and also block serotonin receptors, and they reduce negative symptoms such as avolition as well as positive ones. Third-generation drugs such as aripiprazole adjust dopamine activity rather than just blocking it. They are taken daily for months or years.

CBT. A talking therapy over a set number of sessions. The therapist builds trust, then uses psychoeducation so the person understands their illness. Together they examine the evidence for a delusion, for example a belief that the TV is sending messages, and test alternative explanations; for voices, the person learns coping strategies and to see the voice as a symptom. Homework such as a symptom diary continues between sessions. Sensky et al. (2000) gave CBT or befriending to 90 patients whose symptoms had not responded to drugs; both groups improved by the end of treatment, but only the CBT group kept improving at the 9-month follow-up.

Why it reaches the top level: both are described accurately, with named examples, and each is linked to the symptoms it reduces.

(b) Determinism versus free will (the named issue). Drug treatment rests on a deterministic view: symptoms are caused by dopamine levels the person cannot control, so the chemistry is changed for them. CBT allows more free will: it assumes the person can learn to notice and challenge their own delusional thoughts and choose how to respond to voices. Even with drugs there is a choice, because the patient decides whether to keep taking them, and many stop. So CBT treats the patient as an active agent, which may help long-term change, as Sensky's lasting follow-up gains suggest.

Effectiveness and evidence. Antipsychotics reduce positive symptoms for many patients quickly enough to calm an acute episode, which can make them ready for CBT. Sensky's randomised trial with blind raters is strong evidence that CBT helps patients whom drugs had not helped, and its 9-month follow-up shows lasting benefit. But Sensky's patients were all drug-resistant and kept their medication, so the results may not apply to someone on CBT alone.

Side effects and ethics. Typical antipsychotics can cause tardive dyskinesia, which may be permanent; atypicals cause weight gain. These side effects make people stop taking them, leading to relapse. CBT has no physical side effects, and a patient only benefits by joining in willingly. Medication, by contrast, may be given to someone detained in hospital without their agreement, and a person who is psychotic may not grasp the risks well enough for their consent to count as informed.

Nomothetic versus idiographic. Drug treatment is nomothetic: the same drug acts on the same receptors in everyone. CBT is more idiographic: each person's delusions, voices and goals are different, so therapy is tailored to them. This makes CBT suit the individual better but its effects are harder to standardise and compare.

Why it reaches the top level: issue by issue, the named issue first, both treatments compared within each issue, every point tied to schizophrenia with evidence from (a).

Common mistakes

- **Describing the wrong study:** Paul and Lentz's token economy when Sensky's CBT study is asked for, or Lovell et al.'s therapy for OCD in a schizophrenia treatment essay (November 2021 and November 2022 reports).
- **Muddling concordance:** concordance is the chance that both twins have the disorder, not how common schizophrenia is in each kind of twin (March 2023 report).
- **Dopamine in the wrong place:** excess in the mesolimbic pathway gives positive symptoms; shortage in the prefrontal cortex gives negative ones. Vague or wrong brain areas kept answers out of the top level (March 2025 report).
- **Putting side effects in part (a)** of an essay, or listing symptoms when treatments are asked for: neither earns credit there (November 2022 report).
- **Describing CBT without saying how it reduces a symptom** of schizophrenia (November 2022 report).
- **Treating ECT as psychological** or suggesting SSRIs for schizophrenia: ECT is biological, and SSRIs are antidepressants (June 2021 and June 2022 reports).
- **Generic evaluation:** "it has side effects", "drugs are cost-effective" or "social desirability" with nothing about schizophrenia or the study. Name the side effect, compare the cost with CBT or ECT, or say how it affected Freeman's participants (June 2021, June 2023 and March 2026 reports).
- **Calling side effects automatically unethical:** most patients consent and the drugs improve their lives; weigh both sides (November 2022 report).
- **Using the wrong method in a plan;** writing about symptoms or a case study when (b)(i) asks about the drugs; or writing about methodology when (b)(ii) asks how the psychology shaped the plan (March 2026 report).
- **Saying a debate "applies" without explaining how:** say why the dopamine hypothesis is reductionist, not just that it is (March 2025 report).

How to get the marks

- **"Identify", "give" and "state"**: short, exact facts; for Freeman's comments, the participant's own words.
- **"Outline"** (2 marks): the point plus one detail or example.
- **"Explain" or "suggest"** (2 marks a point): the point (1) applied to schizophrenia, the study or the patient (1). Examiners don't give the second mark for a general answer.
- **Patient questions**: use the person's name and details in every sentence; name the symptom you are treating or explaining.
- **"Describe" in an essay** (6 marks): both named items, accurate terms (D2 receptors, mesolimbic, prefrontal cortex, self-monitoring, seizure, psychoeducation), each linked to symptoms.
- **"Evaluate"** (10 marks): issue by issue, the named issue included and explained, both items compared, evidence from studies, a short judgement at the end.
- **Plans**: the named method, 4–5 specific features, real patients, ethics; then knowledge from the syllabus, linked feature by feature to the plan.

Quick check

1. Sort these into positive and negative symptoms: hearing a voice commenting on your actions; speaking very little; believing your thoughts are broadcast on the radio; no longer enjoying music.
2. A participant in Freeman et al. (2003) chose "agree a little" for every VR-Paranoia statement. What is their total score, and what is the highest total possible?
3. In Gottesman and Shields' study, how many times greater was the concordance for MZ twins than for DZ twins (to 1 decimal place)? Why does a figure below 100% matter?
4. Sensky's patients had a mean of 19 sessions over 9 months of therapy. About how many sessions is that per month (to 1 decimal place)? How long after baseline was the follow-up assessment, if therapy lasted the full 9 months?
5. A student writes: "A weakness of antipsychotics is relapse." Why would this score 0, and how could it be improved?

Answers

1. **Positive:** hearing a voice (hallucination); believing thoughts are broadcast (a passivity delusion).
Negative: speaking very little (alogia); no longer enjoying music (anhedonia).
2. "Agree a little" scores 1, so the total is $15 \times 1 = 15$. The highest possible is $15 \times 3 = 45$.
3. $58 \div 12 \approx 4.8$ times. If genes were the whole cause, identical twins (with the same genes) would always both have it; 58% means the environment must also play a part.
4. $19 \div 9 \approx 2.1$ sessions a month. The follow-up was 9 months after therapy ended, so $9 + 9 = 18$ months after baseline.
5. It names a problem but doesn't explain it. Better: "Patients who feel well may forget or choose to stop taking their antipsychotics (1), and their symptoms then return (1)."

Past questions to try

- 9990/43/M/J/24 Q1: VR-Paranoia items and scale, then strengths of VR.
- 9990/32/M/J/24 Q4: the ECT and CBT essay with idiographic versus nomothetic.
- 9990/32/F/M/24 Q1: two explanations from clues about a patient.
- 9990/32/O/N/24 Q2: the idiographic versus nomothetic debate applied to diagnosis.