Classification of schizophrenia (pages 8–9)

1. C

2. A positive symptom of schizophrenia is one that appears to reflect an excess or distortion of normal functioning. For example, one positive symptom of schizophrenia is auditory hallucinations, because this is where the schizophrenic hears voices no one else can hear.

A negative symptom of schizophrenia is one that appears to reflect a reduction or loss of normal functioning. For example, a negative symptom of schizophrenia is avolition, because this is a reduction in interests and desires as well as an inability to initiate and persist in goal-directed behaviour.

3. Hallucinations are a positive symptom characterised by bizarre perceptions that are usually auditory (e.g. the person hears voices that other people can’t hear) but can also be visual (e.g. seeing objects that other people can’t see). Avolition is a negative symptom characterised by a reduction of interests and desires and an inability to initiate and persist in goal-directed behaviour (e.g. sitting in the house for hours every day, doing nothing).

4. (Specimen answer is supplied in the exam workbook.)

5. a. Secondary data is information used in a research study that was collected by someone else or for a purpose other than the current one. An example of secondary data is government statistics, such as information about the treatment of mental health.

b. The purpose of the abstract is to allow a reader to get an overview about a study. It does this by covering the aims, hypothesis, method, results and conclusions.

c. Peer review is a means of establishing the validity of scientific research. Without peer review, we don’t know what is mere opinion or speculation, as distinct from rigorously researched scientific data.
1. D

2. 
   • There is a significant variation between countries in the diagnosis of schizophrenia.
   • For example, Copeland gave 134 US psychiatrists and 194 British psychiatrists a description of a patient.
   • Copeland found that 69 per cent of the US psychiatrists diagnosed schizophrenia, but only 2 per cent of British psychiatrists did, suggesting that culture plays a role in the diagnostic process.

3. 
   • Symptom overlap is where a disorder’s symptoms may also be found in other disorders (e.g. schizophrenia shares symptoms with dissociative identity disorder).
   • For example, schizophrenia shares symptoms with dissociative identity disorder.
   • However, co-morbidity is the extent to which two or more conditions co-occur in an individual simultaneously.
   • For example, depression is co-morbid with schizophrenia.

4. 
   a. To find out whether there is a gender bias in the diagnosis and/or classification of schizophrenia.
   b. An aim is a statement of what the researcher intends to find out in a research study, whereas a hypothesis is a precise and testable statement about the assumed relationship between variables.
   c. Independent variable: Information given to the psychiatrists about the gender of the interviewees. Dependent variable: Whether or not the interviewee was diagnosed as schizophrenic.
   d. Whether or not psychiatrists diagnose a person as schizophrenic depends on the person’s gender.
   e. A small-scale trial run of a study to test any aspects of the design, with a view to making improvements. The transcripts would need to be checked to ensure they did not give information about an interviewee’s gender.
   f. By correlating the judgments made by each group of psychiatrists. If their judgments were reliable, the correlation coefficients obtained would be statistically significant.

5. 
   • Reliability in diagnosis is how consistent a diagnosis is. For example, if two or more clinicians agree that a person is schizophrenic, then their diagnoses are reliable. If a diagnosis is reliable, the same diagnosis will be made when taken on several occasions.
   • However, validity of diagnosis is the extent to which a diagnosis represents something that is real and distinct from other disorders.
   • Finn’s view is not correct because a diagnosis cannot possibly be valid unless it is reliable.
   • Ferdi’s view is correct because a diagnosis can be reliable without necessarily being valid.

6. **Possible AO1 content:**
   • Reliability of diagnosis, e.g. the extent to which two clinicians agree that a person is schizophrenic (or not).
   • Validity of diagnosis, e.g. whether a person diagnosed as schizophrenic genuinely is schizophrenic.
   • Co-morbidity is the extent to which two or more disorders occur in a patient. For example, schizophrenia is co-morbid with depression.
   • System overlap is where a disorder’s symptoms may also be found in other disorders, e.g. schizophrenia shares symptoms with dissociative identity disorder.
• There is also a cultural bias when schizophrenia is being diagnosed. For example, research suggests there is a significant variation between countries when it comes to diagnosing schizophrenia.
• There is a gender bias in schizophrenia diagnosis. For example, Broverman et al. found that clinicians equated healthy ‘adult’ behaviour with healthy ‘male’ behaviour.

Possible AO3 content:
• Research support for the idea that there are cultural differences in schizophrenia, e.g. Brekke and Barrio found that the prognosis for members of ethnic minority groups was more positive than for majority group members.
• Research support for gender bias in diagnosis. For example, Loring and Powell found that when clinicians read case studies of patients’ behaviour that were described as ‘male’ or had no information about their gender, 56 per cent gave a diagnosis of schizophrenia, compared with 20 per cent when the case studies were described as ‘female’.
• There are problems with inter-observer reliability in diagnosis of schizophrenia. For example, Waley found inter-rater correlations in the diagnosis of schizophrenia of 0.11.
• Co-morbidity may have negative consequences for people diagnosed with schizophrenia. For example, Weber et al. found that many patients with a primary diagnosis of schizophrenia were also diagnosed with medical problems such as hypertension. They concluded that the very nature of a diagnosis of schizophrenia leads to a lower standard of medical care, adversely affecting the prognosis for patients with schizophrenia.
• A diagnosis of schizophrenia tells us little about a person’s chance of improvement. A diagnosis of schizophrenia therefore has little predictive validity. For example, some people never appear to recover from the disorder, but many do.

Biological explanations for schizophrenia (pages 15–18)

1. C

2.
• One neural correlate is damage to the prefrontal cortex and connections with other brain areas.
• Research shows that hippocampal dysfunction correlates with cognitive impairments, e.g. Mukai et al.
• Individuals with schizophrenia have reduced volume of grey matter and reduced white matter pathways.
• Research also shows that individuals who develop schizophrenia show a steeper rate of grey matter loss (e.g. Cannon et al.) and reduced white matter in the prefrontal cortex’s connection with the hippocampus (Du et al.).

3.
• Tienari et al. studied 164 adoptees whose biological mothers had been diagnosed with schizophrenia and 197 control adoptees whose biological mothers did not have a diagnosis of schizophrenia.
• They found that of those adoptees whose mothers had a schizophrenia diagnosis, 6.7 per cent also received a diagnosis of schizophrenia compared with 2 per cent of the control adoptees.
• This shows that genetic factors do play a role in the development of schizophrenia.

4.
• Genetic explanations for schizophrenia claim that the risk of developing schizophrenia among individuals who have family members with the disorder is higher than those who do not.
• A concordance rate is the probability that a second twin will develop a disorder, given the other twin already has it.
• If a concordance rate for monozygotic twins is higher than for dizygotic twins, this means it must be due to genetic factors, given that the environment is the same for both types of twin.
• Therefore, this finding shows that genetic factors play a role in the development of schizophrenia.
5. The dopamine hypothesis: an excess of dopamine in certain regions of the brain. Messages from neurons that transmit dopamine fire too easily, or too often. Schizophrenics are also thought to have an abnormally high number of D receptors on receiving neurons.

• The revised dopamine hypothesis: the positive symptoms of schizophrenia are caused by an excess of dopamine in the mesolimbic pathway. The negative and cognitive symptoms are thought to come from a deficit of dopamine in areas of the prefrontal cortex.

• Supporting evidence for the role of dopamine comes from the use of antipsychotics. These reduce the effects of dopamine, which is consistent with the theory that an excess of dopamine causes schizophrenia.

• However, the dopamine hypothesis is challenged because of evidence that shows that in about one third of people experiencing hallucinations and delusions, antipsychotic drugs do not alleviate the symptoms (Noll).

6. Possible AO1 content:

• The role of genetics: twin studies have found a concordance rate of 40.4 per cent for MZ twins, and 7.4 per cent for DZ twins (Joseph).

• The role of dopamine: an excess of dopamine in certain regions of the brain. Messages from neurons that transmit dopamine fire too easily, or too often. Schizophrenics have an abnormally high number of D receptors on receiving neurons.

• Neural correlates: damage to the prefrontal cortex and connections with other brain areas. Research shows that individuals with schizophrenia have reduced volume of grey matter, and reduced white matter pathways.

Possible AO3 content:

• A higher concordance rate in twin studies may be the result of environmental factors, too. Twin studies assume that MZ and DZ environments are equivalent, but MZs are often treated more similarly than DZs, so it’s difficult to assess the relative contributions of genetic and environmental factors as causes of schizophrenia.

• Research support for the dopamine hypothesis from drug therapy. For example, antipsychotic drugs reduce activity in the neural pathways that use dopamine, supporting the idea that dopamine plays an important role in schizophrenia.

• The dopamine hypothesis is challenged because of evidence that shows that in about one third of people experiencing hallucinations and delusions, antipsychotic drugs do not alleviate the symptoms (Noll).

• There is inconclusive evidence for the dopamine hypothesis. For example, Moncrieff points out that other confounding sources of dopamine release (e.g. smoking or stress) have rarely been considered, suggesting the claim that overactivity of the dopaminergic system is not supported by current evidence.

• There is research support for the lack of grey matter in schizophrenic patients. For example, Vita et al. found that schizophrenia patients showed significant grey matter loss over time, especially from the frontal, temporal and parietal lobes.

**Psychological explanations for schizophrenia (pages 19–22)**

1. B

2. Cognitive explanations of schizophrenia say that the disorder develops as a result of dysfunctional thought processing. For example, the patient’s interpretations of their experiences are controlled by inadequate information processing.

   • This can explain some symptoms, such as hallucinations and delusions.

   • Hallucinations: schizophrenics are significantly more likely to misattribute the source of a self-generated auditory experience to an external source.
• Delusional thinking has an egocentric bias, so patients tend to relate irrelevant information to themselves, and so arrive at false (delusional) conclusions.

OR

• Abnormalities in cognitive function.
• Cognitive habits or beliefs cause an individual to evaluate information inappropriately.
• Proposal that schizophrenics process information differently from those without the disorder.

3.
 a. Keeping a count of the number of times a certain behaviour (event) occurs.
 b. Time sampling
 c. Talking about the schizophrenic in a critical manner.
    Being overly-concerned with the schizophrenic or their behaviour.
    (Other answers are also acceptable.)
 d. Nominal level
 e. Chi-squared

4.
• Double bind theory says that children who receive contradictory messages from their parents are more likely to develop schizophrenia. For example, if a mother tells her son that she loves him, but at the same time turns her head away in disgust, the child receives two conflicting messages about their relationship on different communicative levels. This experience leads to schizophrenic symptoms (e.g. flattened effect and withdrawal) as these interactions prevent the development of an internally coherent construction of reality.
• Expressed emotion is a family communication style which is characterised by critical or hostile comments being made about the schizophrenic person, or in a way that indicates emotional over-involvement, or over-concern, with the patient or their behaviour.
• There is research support for the idea that family relationships are involved in the development of schizophrenia. For example, Tienari et al. found that adopted children who had schizophrenic biological parents were more likely to develop schizophrenia than children with non-schizophrenic biological parents, but only when the adoptive family was rated as disturbed.
• One strength of double bind theory is that there is research support for it. For example, Berger found that schizophrenics reported higher recall of double bind statements by their mothers than non-schizophrenics.

5.
Possible AO1 content:
• Double bind theory says that children who receive contradictory messages from their parents are more likely to develop schizophrenia.
• For example, if a mother tells her son that she loves him, but at the same time turns her head away in disgust, the child receives two conflicting messages about their relationship on different communicative levels. This experience leads to schizophrenic symptoms (e.g. flattened effect and withdrawal) as these interactions prevent the development of an internally coherent construction of reality.
• Expressed emotion is a family communication style which is characterised by critical or hostile comments being made about the schizophrenic person, or in a way that indicates emotional over-involvement, or over-concern, with the patient or their behaviour.
• Cognitive explanations claim that schizophrenia is a result of dysfunctional thought processing. For example, delusions occur when a person relates irrelevant information to themselves, and consequently draws false conclusions. Hallucinations occur because the person attributes a self-generated auditory experience to an external source.
Possible AO3 content:

- One limitation of double bind theory is that the evidence for it is mixed, at best. For example, Berger found that schizophrenics reported higher recall of double bind statements by their mothers than non-schizophrenics. However, Liem reported no differences in communication patterns in families of schizophrenics and non-schizophrenics.
- One limitation of the expressed emotion explanation is that schizophrenics differ in their vulnerability to the influence of high expressed emotion. For example, Altorfer et al. found that 25 per cent of schizophrenics showed no physiological responses to stressful comments from relatives. This suggests that whether or not EE behaviour is stressful depends on how the schizophrenic perceives it.
- An issue with psychological explanations of schizophrenia is that family relationships may interact with genetic factors. For example, Tienari et al. found that adopted children who had schizophrenic biological parents were more likely to develop schizophrenia than children with non-schizophrenic biological parents, but only when the adoptive family was rated as disturbed.
- One strength of explaining schizophrenia in terms of dysfunctional thought processing is that it can explain both the positive and negative symptoms. For example, schizophrenics with positive symptoms show biases in information processing, while schizophrenics with negative symptoms display dysfunctional thought processes, such as having low expectations of pleasure.
- Another strength of cognitive explanations of schizophrenia is that findings related to CBTP support them. For example, NICE found that CBTP was more effective than antipsychotic drugs in reducing symptom severity and improving social functioning, supporting the view that faulty cognitions are the cause of schizophrenia.

Drug therapy (pages 23–27)

1. B

2. One limitation of drug therapy is that drugs have side effects. For example, typical antipsychotics can cause side effects such as dyskensia.
   - If patients keep using them, then they will need to take other medication to stop the side effects, or they may stop taking them altogether.
   - This means that it may not be appropriate to use typical antipsychotics to treat schizophrenia.

3. a. Patients who continue to take their antipsychotic treatment for three months show less severe symptoms compared to those who receive placebo treatment only.
   b. Volunteer. The sample is likely to be biased. For example, volunteers are more likely than non-volunteers to be more highly motivated and/or with extra time on their hands.
   c. The individuals could have been randomly allocated to the conditions. This could be done by putting the individuals’ names into a hat and drawing out names so that every other individual went into one condition. This would hopefully distribute participant variables equally.
   d. An investigator effect is anything that an investigator does that has an effect on a participant’s performance in a study other than what was intended. In this study, the researchers may have biased their assessments of the severity of symptoms if, for example, they were aware which individuals had received the antipsychotic and which had received the drug.
   e. In order to test whether the antipsychotics are effective, means increasing the likelihood that those in the placebo condition would experience an increase in symptoms over the three months of the study. This would be distressing for them.

4. Typical antipsychotic drugs work by reducing stimulation of the dopamine system in the mesolimbic pathway.
   - Unfortunately, one side effect of the drugs Matt is taking is that they cause movement disorders, such as tardive dyskinesia.
• One strength of atypical antipsychotic drugs Matt’s clinician wants him to change to is that patients experience fewer side effects.
• This means that Matt is more likely to continue with his medication, which in turn means the clinician is more likely to see a reduction in Matt’s symptoms.

5.
• Atypical antipsychotics aim to act on negative symptoms as well as positive symptoms. They do this by reducing the effects of dopamine by temporarily occupying dopamine receptor sites.
• A strength of this type of treatment is that atypical antipsychotics have fewer side effects than typical antipsychotics. For example, they are less likely to experience movement problems such as tardive dyskinesia. This means that patients are more likely to continue to take their medication, which in turn means the clinician is more likely to see a reduction in their symptoms.
• Research support for the use of atypical psychotics, e.g. Crossley et al.

6.
Possible AO1 content:
• Typical antipsychotics aim to reduce dopamine. They do this by binding dopamine receptors, without stimulating them. By reducing stimulation of the dopamine system in the mesolimbic pathway, antipsychotic drugs eliminate the positive symptoms of schizophrenia.
• Atypical antipsychotics also aim to reduce dopamine. They do this by temporarily occupying dopamine receptors, then rapidly dissociating to allow normal dopamine transmission.

Possible AO3 content:
• One strength of antipsychotics is that they are effective in treating schizophrenia. For example, Leucht et al. found that 64 per cent of patients whose antipsychotic medication was replaced with a placebo relapsed, while only 27 per cent of those who remained on their medication relapsed.
• One weakness of typical antipsychotics is the side effects they produce. For example, movement disorders, such as tardive dyskinesia. This means it may not be appropriate to treat schizophrenia with these drugs.
• However, while atypical antipsychotics have fewer side effects, they do not seem to be more effective than typical antipsychotics. For example, Crossley et al. found no significant differences between atypical and typical drugs in terms of their effects on symptoms, but did note differences in the type of side effects.
• An important point about drug therapy in general is that it raises several ethical issues. For example, they have side effects and psychosocial consequences, which mean that a cost-benefit analysis of typical antipsychotics would probably be negative.

Cognitive behavioural therapy (pages 28–31)

1. D

2.
• CBTp focuses on challenging irrational, delusional thoughts.
• It does this by disrupting irrational thoughts and beliefs. For example, by developing alternative explanations.
• Clients might be encouraged to complete behavioural assignments to help improve their general levels of functioning.
• During CBTp, the therapist will encourage clients to develop their own alternatives to previously maladaptive beliefs, ideally by looking for coping strategies that are already present in the patient’s mind.
3. Directional. A positive correlation was predicted.
   a. An increase in scores on one variable is associated with an increase (positive correlation) or decrease (negative correlation) in scores on the other variable.
   b. Scattergram, with the number of assignments set on one axis and the schizophrenic’s general level of functioning on the other.
   c. Quantitative data is information that is measured in numbers or quantities, such as ‘how much’ of something there is. It differs from qualitative data in that qualitative data is information in words that cannot be counted or quantified.
   d. Not significant. The calculated value (+0.449) is less than the relevant tabled value (+0.564).

4. Possible AO1 content:
   • Cognitive behavioural therapy for schizophrenia (CBTp) aims to challenge irrational, delusional thoughts.
   • CBTp has various phases, including critical collaborative analysis, where the therapist uses gentle questioning to help the schizophrenic understand illogical deductions and conclusions.
   • Clients might be asked to develop their own alternatives to these previously maladaptive beliefs, ideally by looking for alternative explanations for their previously unhealthy assumptions.

Possible AO3 content:
   • One limitation with CBTp as a therapy for schizophrenia is that it is difficult to assess how effective it is. For example, CBTp is often used in conjunction with antipsychotic medication, so it’s difficult to assess its effectiveness independent of antipsychotic medication.
   • A second limitation of CBTp is that its appropriateness and effectiveness seems to depend on the stage of a schizophrenic’s disorder. For example, CBTp may not be appropriate in the initial acute phase of the disorder, but may be more appropriately used following stabilisation of symptoms with antipsychotic medication.
   • A third limitation is that there are methodological problems with some meta-analytic studies into CBTp’s effectiveness. For example, studies have typically failed to randomly allocate participants to conditions, and meta-analyses fail to take an individual study’s quality into account.
   • A fourth limitation is that methodologically sound meta-analyses of CBTp’s effectiveness suggest it has little therapeutic benefit. For example, Jauhar et al. found that CBTp has only a small effect on reducing hallucinations and delusions, and this small effect disappears when assessment of improvement is done by ‘blind’ judges.
   • A final limitation with CBTp is that it is not yet an established therapy in the treatment of schizophrenia. For example, in the UK, CBTp is only available to 10 per cent of people and, even when it is available, many who are offered it refuse it, or fail to attend.

**Family therapy (pages 32–36)**

1. A

2. One strength of family therapy is that it has considerable economic benefits associated with the treatment of schizophrenia.
   • For example, the NICE review found that family therapy is associated with significant cost savings when offered to people with schizophrenia in addition to standard care.
   • The initial cost is offset by a reduction in costs of hospitalisation because of the lower relapse rates associated with this form of intervention.
   • This means that family therapy may be more beneficial than other therapies, at least in economic terms.
3. a. A meta-analysis is a technique in which a researcher looks at the findings from a number of different studies and produces a statistic to represent the overall effect.

b. Strength: Reviewing the results from a group of studies rather than just one can increase the validity of the conclusions drawn because they are based on a wider sample of participants. Limitation: Research designs in the different studies sampled may vary considerably, meaning the studies are not truly comparable.

c. Allocating participants to experimental groups or conditions using random techniques. Lack of random allocation is a serious methodological shortcoming, which limits the conclusions that can be drawn from a meta-analysis.

d. If the therapy actually does improve clinical outcomes, it could lead to cost reductions in several areas, such as those associated with hospitalisation. The associated cost savings could be used in other areas of the health service, and hopefully reduce the burden on tax payers.

4. One factor is side effects. For example, family therapy does not have side effects. However, with drug therapy there are side effects, some of which are permanent (e.g. tardive dyskinesia). This suggests that, provided family therapy is equally beneficial, it could be concluded that it is preferable to drug therapy.

5. Family therapy aims to work with both the family and the schizophrenic to reduce levels of expressed emotion and stress, in order to prevent relapse.

   - It does this by providing knowledge about schizophrenia and how to deal with it, reducing the emotional climate within the family, and the burden of care.
   - One limitation of family therapy is that carers lower in expressed emotion might be just as effective as family therapy.
   - For example, Garety et al. found no difference between schizophrenics given sessions of family therapy, and those who had carers but no family therapy, in terms of relapse rates.
   - Garety et al. concluded that, for many people, family interventions may not improve outcomes further than a good standard of usual treatment.

6. Possible AO1 content:

   - Family therapy aims to reduce levels of expressed emotion and stress, in order to prevent relapse.
   - It does this by encouraging families to set appropriate limits, while maintaining some degree of separation where necessary.
   - The schizophrenic is also involved and encouraged to talk to their family about what they find helpful.
   - Family therapy also provides family members with information about schizophrenia and how to deal with it.

Possible AO3 content:

   - One strength of family therapy is that it has been shown to have a positive impact on family members as well as the person with schizophrenia. For example, Lobban et al. found that in 60 per cent of studies, family therapy has a significant positive impact on at least one outcome category for relatives (e.g. family functioning).
   - Another strength of family therapy is that it has economic benefits. For example, the National Collaborating Centre for Mental Health (NCCMH) found there were significant cost savings when family therapy was combined with antipsychotic medication.
   - However, one limitation of family therapy is there are methodological issues in studies investigating its effectiveness. For example, Pharoh et al.‘s meta-analysis indicated that many studies failed to randomly allocate participants to conditions, and over 20 per cent of studies failed to use observers ‘blind’ to what treatments patients were receiving.
• A second limitation of family therapy is that carers low in expressed emotion might be just as effective. For example, Garety et al. found no difference between schizophrenics given sessions of family therapy, and those who had carers but no family therapy, in terms of relapse rates.
• A final limitation of family therapy is that its only benefit may be that it increases medication compliance. For example, Pharoah et al. found that family therapy had some effect on relapse and re-admission rates, and also had an effect on how likely schizophrenics were to take their medication. This suggests that any improvements seen are because of medication, not family therapy, per se.

**Token economy and the management of schizophrenia (pages 37–40)**

1. D

2. • One limitation of token economies is that it has only really been shown to work within a hospital setting.
• For example, Corrigan argues that there are problems administering the token economy with outpatients who live in the community.
• In a psychiatric setting, in-patients receive 24-hour care and so there is better control for staff to monitor and reward patients appropriately.
• However, outpatients living in the community receive less treatment, so the method can only be used for part of the day.
• This means that even if the token economy does produce positive results within a hospital setting, these may not be maintained beyond that environment.

3. a. Opportunity (availability) sampling
b. Inevitably biased, because it is drawn from a small part of the population.
c. The observers could be given data recording sheets with the behavioural categories printed on them. Each time one of the activities occurred, the observers would place a tick in the relevant category.
d. They could have looked at the extent to which the observers agreed on the observations. Inter-observer reliability could be calculated as a correlation coefficient. The higher the correlation coefficient, the greater the agreement between the observers.
e. There is a less than 5 per cent chance that a difference (or correlation) would occur if there was no real difference between the conditions (or relationship between the variables).

4. • The token economy system aims to improve the schizophrenic’s engagement in daily activities.
• It works by awarding tokens (secondary reinforcers) whenever the schizophrenic engages in a target behaviour. The tokens can then be exchanged for primary reinforcers, such as food or privileges.
• One strength of the token economy is that there is research support for its effectiveness in psychiatric settings.
• For example, Dickerson et al. found that 11 out of 13 studies reported beneficial effects that were directly attributable to the use of token economies.
• The researchers concluded that token economies are effective in increasing the adaptive behaviours of schizophrenic patients.

5. **Possible AO1 content:**
• Token economy is based on operant conditioning.
• It aims to improve the patient’s engagement in daily activities.
• It involves rewards (tokens) being given as secondary reinforcers when individuals engage in correct or socially desirable behaviours.
• The tokens can then be exchanged for primary reinforcers, such as food or privileges.

Possible AO3 content:
• One strength of the token economy is that it seems to be effective in managing schizophrenic behaviour. For example, Dickerson et al. found that 11 out of 13 studies reported beneficial effects that were directly attributable to the use of token economies.
• One weakness of the token economy is that tokens may not be the reason for behaviour improvements. To show that tokens improve behaviour, a control group not on a token economy system has to be compared to an experimental group who are. Most token economy systems don’t do this.
• A second weakness is that there are ethical issues with using the token economy. For example, clinicians exercise control over important reinforcers, such as food. All humans have a basic human right to access food, so token economies may not be an appropriate way to manage schizophrenia.
• A third weakness is that the token economy may not be effective in all settings. For example, Corrigan argues that there are problems administrating the token economy with outpatients who live in the community.
• A final weakness of token economies is that they have fallen out of use. Randomised trials are the best way to assess the effectiveness of token economies, but there is an absence of these trials, so the therapy is rarely used as it may not be effective.

An interactionist approach (pages 41–43)

1. D

2. • The diathesis-stress model says that schizophrenia is the result of an interaction between biological and environmental influences.
   • A diathesis is a biological vulnerability to schizophrenia, such as genetic factors.
   • Stress is an environmental influence, such as childhood trauma, or the stresses associated with living in a highly urbanised environment.
   • A combination of these biological and environmental influences is believed to lead to schizophrenia developing.
   • People have varying levels of inherited genetic vulnerability to schizophrenia.
   • Whether or not a person develops schizophrenia is partly determined by this vulnerability and also partly by the stresses they experience.
   • People with a family history of schizophrenia have a high diathesis and so relatively minor stressors may lead to the disorder developing.
   • However, people with a low genetic vulnerability are unlikely to develop the disorder as a result of relatively minor stressors.

3. • Tienari et al. reviewed hospital records for women admitted to psychiatric hospitals and identified those who had been diagnosed with schizophrenia and who had at least one of their offspring adopted away. 145 adopted-away offspring (high risk) were matched with 158 adoptees who didn’t have this genetic risk (low risk).
   • They found that 11 of the high risk group and three from the low risk group had developed schizophrenia. However, being reared in a ‘healthy’ adoptive family appeared to have a protective effect, even for those at high genetic risk.

4. • James is wrong to think that people who have a family history of schizophrenia will always develop it.
This is because the diathesis-stress model states that schizophrenia is the result of an interaction between genetic vulnerability and environmental influences, such as stress. People with a family history of schizophrenia have a high diathesis, so are more vulnerable to developing schizophrenia. However, if there are no stressors to trigger this vulnerability, then schizophrenia will not develop in an individual. This would explain why not all people with a family history of schizophrenia, and therefore a high genetic vulnerability to it, go on to develop the disorder.

5.

Possible AO1 content:
- The diathesis-stress model says that schizophrenia is the result of an interaction between biological and environmental influences.
- A diathesis is a biological vulnerability to schizophrenia, such as genetic factors.
- Stress is an environmental influence, such as childhood trauma, or the stresses associated with living in a highly urbanised environment.
- People with a family history of schizophrenia have a high diathesis and so relatively minor stressors may lead to the disorder developing.
- However, people with a low genetic vulnerability are unlikely to develop the disorder as a result of relatively minor stressors.

Possible AO3 content:
- One strength of the diathesis-stress model is that knowledge of different diatheses may help to prevent schizophrenia. For example, Børglum et al. found that women infected with cytomegalovirus during pregnancy were more likely to have a child who developed schizophrenia.
- One strength of the diathesis-stress model is that there is research support for it. For example, Tienari et al. found that adopted children who had schizophrenic biological parents were more likely to develop schizophrenia than children with non-schizophrenic biological parents, but only when the adoptive family was rated as disturbed.
- One limitation of the diathesis-stress model is that urban environments are not necessarily more stressful. For example, Romans-Clarkson et al. found no urban-rural differences in mental health among women in New Zealand, suggesting that living in a densely populated urban environment may not be a significant stress factor for schizophrenia.
- A second limitation of the diathesis-stress model is that genetic vulnerability is not the only diathesis that increases the risk of developing schizophrenia. For example, birth complications are associated with an increased risk of schizophrenia.
- A third limitation of the diathesis-stress model is that determining causal stress is difficult. For example, Hammen argues that having ineffective coping skills may make life generally more stressful for the individual and so they become more vulnerable to developing schizophrenia.