Surname	StemUp Model Solution	Centre Number	Candidate Number
First name(s)			2

GCE AS/A LEVEL

2290U10-1

Z22-2290U10-1

MONDAY, 16 MAY 2022 – AFTERNOON

PSYCHOLOGY – AS unit 1
Past to Present

1 hour 30 minutes

For Examiner's use only		
Question	**Maximum Mark**	**Mark Awarded**
1.	**14**	
2.	**6**	
3.	**8**	
4.	**10**	
5.	**4**	
6.	**8**	
7.	**10**	
8.	**4**	
9.	**6**	
10.	**10**	
Total	**80**	

2290U101
01

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use gel pen or correction fluid.

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** the questions.

Write your answers in the spaces provided in this booklet. Additional space is provided for some questions within the booklet (if required). If further space is required for any question, you should use the additional page(s) at the back of the booklet, taking care to number the question(s) correctly.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question or part-question.

You are reminded of the necessity for good English and orderly presentation in your answers.

Assessment will take into account the quality of written communication used in your answers.

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Answer **all** questions.

1. (a) Using examples from psychology, describe the 'localisation of brain function' assumption from the biological approach. [4]

This assumption states that specific areas of the brain are responsible for specific functions. For example, Broca's area in the left frontal lobe controls speech production and Wernicke's area in the temporal lobe controls language comprehension. The frontal lobe is linked to personality: after a tamping iron passed through Phineas Gage's frontal lobe (1848) he became impulsive and aggressive. Raine et al. (1997) used PET scans to find reduced prefrontal activity in murderers pleading not guilty by reason of insanity; Charles Whitman had a tumour pressing on his amygdala.

(b) Describe the main components of the therapy you have studied from the biological approach (either drug therapy **OR** psychosurgery). [10]

Drug therapy is based on the assumption that mental disorders are caused by an imbalance of neurotransmitters at the synapse, so drugs (chemotherapy) are prescribed by a GP or psychiatrist, usually as tablets, to restore normal levels. They act either as agonists, which increase the action of a neurotransmitter, or antagonists, which block it.

Antidepressants: SSRIs such as fluoxetine (Prozac) block the reuptake of serotonin into the presynaptic neurone, so more serotonin stays in the synaptic cleft and stimulates the postsynaptic receptors, lifting mood. Older MAOIs inhibit the enzyme monoamine oxidase that breaks down serotonin and noradrenaline, and tricyclics block the reuptake of both. SSRIs take about 2 to 4 weeks to take effect.

Antipsychotics treat schizophrenia. Typical antipsychotics such as chlorpromazine are dopamine antagonists: they block D2 receptors so dopamine activity falls, reducing positive symptoms such as hallucinations. Atypical antipsychotics such

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as clozapine also block serotonin receptors and may help negative symptoms with fewer side effects such as tardive dyskinesia.

Anti-anxiety drugs: benzodiazepines such as diazepam (Valium) enhance the inhibitory neurotransmitter GABA. GABA opens chloride channels, making the postsynaptic neurone less likely to fire, so the person feels calmer. Beta-blockers such as propranolol block adrenaline at beta-adrenergic receptors in the heart,

2. Describe the findings from **both** the experiments in Loftus and Palmer's (1974) research '*Reconstruction of automobile destruction: an example of the interaction between language and memory*'. [6]

Experiment 1: 45 students watched seven films of traffic accidents and were asked 'About how fast were the cars going when they ___ each other?'. Mean speed estimates were highest for 'smashed' (40.8 mph), then 'collided' (39.3 mph), 'bumped' (38.1 mph), 'hit' (34.0 mph) and lowest for 'contacted' (31.8 mph). So a single verb in a question markedly affected the witnesses' answers, showing that leading questions can distort memory (or bias the response).

Experiment 2: 150 students saw a film of a multiple car crash. The 'smashed' group estimated a higher mean speed (10.46 mph) than the 'hit' group (8.00 mph). One week later, when asked 'Did you see any broken glass?' (there was none), 16 of 50 in the 'smashed' condition said yes, compared with 7 of 50 in the 'hit' condition and 6 of 50 in the control group. So 'smashed' made participants over twice as likely to report broken glass. This shows that a leading question actually alters the memory of the event, which is still affected one week later, so accuracy for complex events is easily distorted.

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3. Using examples from psychology, describe **two** assumptions from the behaviourist approach. [4+4]

Assumption 1: all behaviour is learnt through conditioning. People are born a blank slate (tabula rasa) and behaviour is shaped by the environment. In classical conditioning, learning happens by association: Pavlov's dogs learnt to salivate (conditioned response) to a bell (conditioned stimulus) after it was repeatedly paired with food (unconditioned stimulus). Watson and Rayner (1920) conditioned Little Albert to fear a white rat by pairing it with a loud noise. In operant conditioning, behaviour is learnt through its consequences: Skinner's rats pressed a lever more often when it was followed by food (positive reinforcement) or the removal of an electric shock (negative reinforcement), and less often when punished. So behaviour that is reinforced is repeated.

Assumption 2: humans and animals learn in similar ways. Behaviourists believe the same laws of learning apply to all species, as humans differ from animals only quantitatively, not qualitatively. This justifies studying animals in controlled laboratory experiments, such as Skinner boxes and Pavlov's dogs, and generalising the findings to humans. For example, Skinner's principles of reinforcement found with rats and pigeons were applied to humans in token economies in prisons and psychiatric hospitals, where desired behaviour earns tokens (secondary reinforcers) exchanged for rewards. Systematic desensitisation for phobias in humans was also developed from Wolpe's research on cats.

Additional space for question **3** only:

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4. Discuss the cognitive approach in terms of its strengths **and** weaknesses. [10]

One strength is that the cognitive approach is scientific. It uses controlled laboratory experiments that produce objective, quantitative data and can be replicated, such as Loftus and Palmer's (1974) study of leading questions, so its theories of internal processes can be tested and its findings are reliable.

A second strength is its useful applications. Beck's cognitive therapy and Ellis's REBT challenge faulty, irrational thinking, and CBT is an effective treatment for depression and anxiety recommended by NICE. Research into eyewitness testimony led to the cognitive interview used by police.

It is also an interactionist approach which takes a 'middle ground'. It accepts that biology (e.g. brain structures) and experience both shape thinking, and its soft determinism allows some free will, unlike the strict determinism of behaviourism. It is less reductionist than the biological approach.

However, the use of artificial laboratory tasks, such as recalling word lists, means research often lacks ecological validity and mundane realism, so findings may not reflect how cognition works in everyday life.

Also, cognitive processes cannot be directly observed and must be inferred from behaviour, so explanations can be subjective. The computer analogy is machine reductionist: it ignores emotion, motivation and social context, which the psychodynamic and humanistic approaches stress.

Another weakness is that it is nomothetic, looking for general laws of thinking, so it may ignore individual differences and cultural factors in cognition. Its focus on faulty thinking in therapy may also blame the individual and ignore real environmental causes such as poverty.

Overall, the cognitive approach is a valuable, scientific and widely applied approach, but its findings should be checked in real-world settings and combined with biological and social explanations.

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5. Using **one** assumption from the positive approach, explain the formation of a relationship. [4]

One assumption of the positive approach is that humans have free will: we are not determined by biology or the past but can choose to pursue happiness and the good life. This explains relationship formation because individuals actively choose who they connect with. For example, on dating sites people select the characteristics they want in a future partner, such as shared values and interests, and choose to form relationships that meet their need for relatedness (Basic Needs Theory) and help them flourish, as positive relationships are a key part of wellbeing.

6. Describe the procedures of Watson and Rayner's (1920) research '*Conditioned emotional reactions*'. [8]

Albert B. was a healthy, emotionally stable infant from a hospital. At 9 months he was confronted with a white rat, a rabbit, a dog, a monkey, masks with and without hair, cotton wool and burning newspaper, and showed no fear. At 8 months 26 days a hammer was struck on a suspended steel bar behind him, which made him cry. Reactions were filmed with a motion picture camera. At 11 months 3 days a white rat was presented and, as Albert touched it, the bar was struck behind him (twice). At 11 months 10 days the rat was given alone, then joint stimulation (rat and sound) three times, rat alone, joint stimulation twice more, then rat alone, when he cried and crawled away. At 11 months 15 days generalisation was tested with the rat, wooden blocks, a rabbit, a dog, a fur coat, cotton wool, Watson's hair and a Santa Claus mask. At 11 months 20 days, after more joint stimulation, he was tested in a large, well-lit lecture room to see if the fear transferred to a new setting. At 1 year 21 days he was retested with the mask, coat, rat, rabbit and dog. Planned removal of the fear was never done as Albert left the hospital.

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7. Dan is studying AS Psychology and has been learning about the research carried out by Bowlby (1944). His teacher has suggested that Bowlby's research had many methodological and ethical problems. However, Dan disagrees.

With reference to the scenario, critically evaluate Bowlby's (1944) research '*Forty-four juvenile thieves: Their characters and home-life*'. [10]

Dan could argue that Bowlby's research had methodological strengths. It used a control group of 44 emotionally disturbed children who did not steal, so the thieves could be compared. He also collected rich, detailed data from several sources: psychiatric interviews, IQ tests and social workers' reports, and wrote detailed case histories, giving an in-depth understanding. The findings were striking: 14 thieves were 'affectionless psychopaths' and 12 of these (86%) had suffered prolonged early separation from their mother, compared with only 2 of the 44 controls, supporting maternal deprivation theory. The research also had positive applications, such as changes to hospital visiting for children.

However, the teacher is right that there are many methodological problems. The study is correlational, so cause and effect cannot be established: other factors, such as poverty or family conflict, may explain both separation and stealing.

Data on early separation were collected retrospectively from mothers, who may have forgotten or distorted events, so self-report issues reduce validity. Bowlby carried out the interviews and diagnoses himself, knowing which children were thieves, so researcher bias may have influenced his decisions. The qualitative case study data are open to subjective interpretation.

The sample is also a problem: all 88 children attended the London Child Guidance Clinic, so they were already emotionally disturbed and the findings may not generalise to other children.

Contradictory evidence also challenges the conclusions. Lewis (1954) found no link between early separation and later delinquency in 500 young people, and Rutter's Romanian orphan studies showed that children adopted before 6 months

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8. Discuss **one** difference between the psychodynamic and positive approaches. [4]

One difference is their view on determinism. The psychodynamic approach takes a psychic determinist view: behaviour is caused by unconscious drives (the id, ego and superego) and early childhood experiences in the psychosexual stages, as with Little Hans. The positive approach rejects this and assumes free will, so people can choose to build character strengths and flourish. The positive view is more optimistic and empowering, and its claims are more easily tested scientifically, whereas the unconscious cannot be falsified. However, it may blame people for their own unhappiness.

9. Evaluate aversion therapy **OR** systematic desensitisation in terms of ethical considerations. [6]

Aversion therapy raises serious ethical issues of harm. Patients are deliberately made to feel ill or in pain, e.g. with emetic drugs such as Antabuse for alcoholism or electric shocks, which can cause physical and psychological distress, dehydration and even death in rare cases. This must be weighed against benefits, such as stopping a harmful addiction.

There are also issues of behavioural control. The therapist has great power to change behaviour, and historically aversion therapy was used to 'treat' homosexuality, which was not a disorder, causing great harm and showing it can be used to enforce social norms.

Valid consent is also an issue, as patients may feel pressured by courts or families. However, today it is only used with fully informed consent and the right to withdraw, and is less used than more ethical methods such as covert sensitisation or systematic desensitisation.

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10. Critically evaluate mindfulness **OR** quality of life therapy. [10]

Mindfulness has research support for its effectiveness. Kuyken et al. (2013) studied 522 pupils aged 12 to 16 in 12 schools: pupils who completed the Mindfulness in Schools Project reported fewer depressive symptoms, lower stress and greater wellbeing at follow-up than controls. Kuyken et al. (2015) found MBCT was as effective as antidepressants in preventing depressive relapse (44% versus 47% over two years), so it is a good alternative for those who do not want medication.

However, there are individual differences in effectiveness. Williams et al. (2014) found MBCT did not reduce relapse more than other treatments overall for recurrent depression, but it did for those with a history of childhood trauma. So it may suit some people more than others, and it requires motivation and regular practice, which many may not maintain.

Much of the research also has methodological weaknesses: many studies use small samples, self-report measures that are open to social desirability bias, and no placebo control, so it is hard to know if improvements are due to mindfulness or just attention and expectations.

Compared with other therapies, mindfulness has few side effects, unlike drug therapy, and is cheap, as it can be taught in groups, online or in schools. Unlike CBT, it teaches non-judgemental awareness of thoughts rather than challenging them, and can prevent problems as well as treat them.

Ethically, it takes a more positive approach, focusing on wellbeing and giving people control. However, there are potential negative effects: some people report anxiety, panic or re-experiencing traumatic memories during meditation, so it may be unsuitable for those with severe disorders such as psychosis.

END OF PAPER

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Question number	Additional page, if required. Write the question number(s) in the left-hand margin.
1. (b)	reducing physical symptoms like a racing heart. The dose is monitored and adjusted, drugs are often combined with psychological therapy, and they are tapered off slowly to avoid withdrawal effects.
7.	recovered well, suggesting deprivation effects can be reversed. Rutter also argued Bowlby confused deprivation with privation. There are also ethical problems. Children are vulnerable participants who could not give valid consent, so consent relied on parents, and the children may not have known they were in research. Confidentiality was an issue as detailed personal case histories of identifiable families were published, although names were changed. Asking mothers about separations may have caused distress. However, Dan could argue the children were receiving help at the clinic, so there was a therapeutic benefit. In conclusion, although Dan is right that the study was detailed, original and very influential, the teacher's view is stronger: the correlational, retrospective and biased design and the ethical issues mean Bowlby's conclusions should be treated with caution.

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Question number	Additional page, if required. Write the question number(s) in the left-hand margin.
10.	In conclusion, mindfulness is an effective, low-cost and ethical therapy, especially for preventing depressive relapse, but it is not suitable for everyone and more rigorous controlled research is needed.

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