

**Section A**

**Approaches in Psychology**

**01.1** Complete the following sentence. Shade **one** box only.

[1 mark]

Marks for this question: AO1 = 1

C

**01.2** Complete the following sentence. Shade **one** box only.

[1 mark]

Marks for this question: AO1 = 1

B

**02** Which **one** of the following responses results from the action of the sympathetic division of the autonomic nervous system? Shade **one** box only.

[1 mark]

Marks for this question: AO1 = 1

C

General feedback

→ Include enough info for marks available  
ie 4 Marks = 2 explanations + elaborated  
points with examples

→ Plan 12 Mark Q. PEEL

→ Leaving out Q 8.

→ Answer the Q ie don't write everything you know

→ Grade boundaries

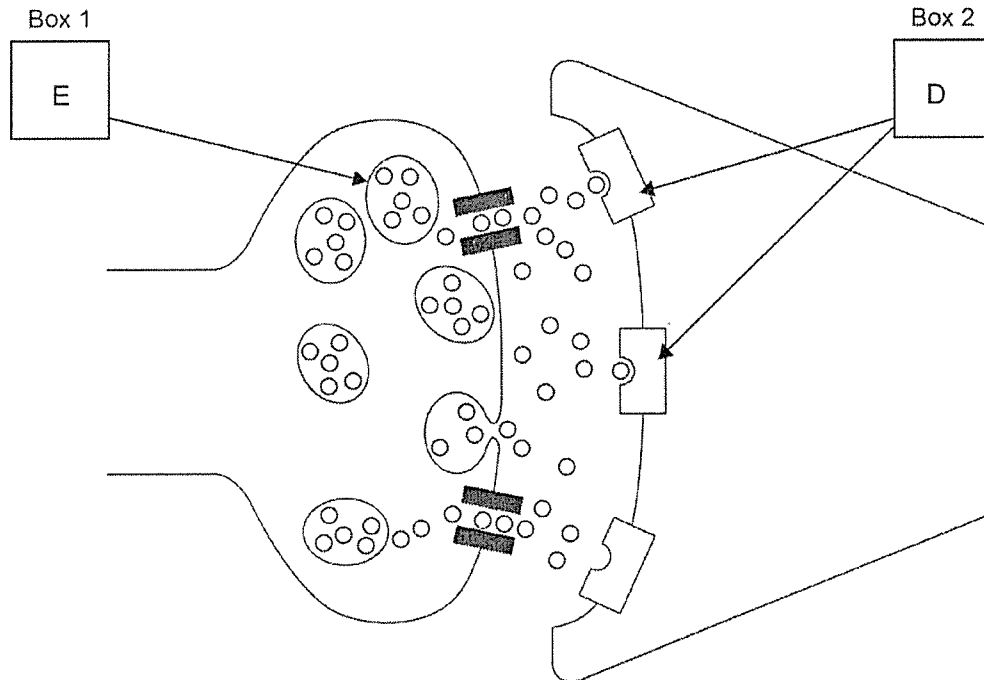
**03** Label the **two** areas of the synapse in **Figure 1** by putting the appropriate letter in each box.

**[2 marks]**

**Marks for this question: AO1 = 2**

**Figure 1: The synapse**

**1 mark each** for D and E in correct boxes.



**04** Briefly suggest how **each** of these responses might inform psychologists investigating models of human cognitive processing.

**[2 marks]**

**Marks for this question: AO2 = 2**

**1 mark** for each relevant application as follows:

**1 mark** for response A: processing is limited capacity (when performing demanding/novel tasks)

**1 mark** for response B: processing is sequential (when performing demanding/novel tasks).

Credit other relevant applications.

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Section B

Biopsychology

05 Using your knowledge of localisation of function in the brain, identify the area of cortical specialisation. Shade one box only for each area.

[5 marks]

Marks for these questions: AO1 = 5

05.1 A  
05.2 C  
05.3 D  
05.4 E  
05.5 B

06 The electroencephalogram (EEG) and event-related potentials (ERPs) both involve recording the electrical activity of the brain.

Outline one difference between the EEG and ERPs.

[2 marks]

Marks for this question: AO1 = 2

2 marks for clear outline of the key difference: EEG is a recording of general brain activity usually linked to states such as sleep and arousal, whilst ERPs are elicited by specific stimuli presented to the participant.

1 mark for a muddled/vague answer that shows some understanding of general state vs specific response.

Note - question is about differences, so no credit for simply describing the technique.

07	Using your knowledge of endogenous pacemakers and exogenous zeitgebers, explain Sam's experiences.	[4 marks]
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Marks for this question: AO2 = 4

Level	Marks	Description
2	3–4	Knowledge of the role of endogenous pacemakers and exogenous zeitgebers and how they interact to affect the normal sleep-wake cycle is clear and mostly accurate. The material is used appropriately to explain Sam's experiences/symptoms. The answer is generally coherent with effective use of specialist terminology.
1	1–2	Some knowledge of the role of endogenous pacemakers and exogenous zeitgebers in the sleep-wake cycle is evident. The material is not always linked explicitly or effectively to Sam's experiences/symptoms. The answer lacks accuracy and detail. Use of specialist terminology is either absent or inappropriate.
	0	No relevant content.

Content:

- endogenous pacemakers – internal biological rhythms
- exogenous zeitgebers – external factors, eg light
- moving to night shift means pacemakers try to impose inbuilt rhythm of sleep, but are now out of synchrony with the zeitgeber of light
- disruption of biological rhythms has been shown to lead to disrupted sleep patterns, increased anxiety and decreased alertness and vigilance.

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**Section B**
**Biopsychology**

<b>6</b>	Outline the role of adrenaline in the fight or flight response.	<b>[4 marks]</b>
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**Marks for this question: AO1 = 4**

Level	Marks	Description
2	3–4	Knowledge of the role of adrenaline in the fight or flight response is clear and mostly accurate.
1	1–2	Knowledge of the role of adrenaline in the fight or flight response is incomplete/partly accurate. For 1 mark there may be some detail of direct or general effects but not explicitly linked to fight or flight.
	0	No relevant content.

**Possible content**

- Adrenaline is released from the adrenal medulla in response to activation of the sympathomedullary pathway.
- Adrenaline has a range of effects on the body
- Direct effects of adrenaline
  - increase heart rate
  - constricts blood vessels, increasing rate of blood flow and raising blood pressure
  - diverts blood away from the skin, kidneys and digestive system
  - increases blood to brain and skeletal muscle
  - increases respiration and sweating
- The general effects of adrenaline
  - prepare the body for action, fight or flight,
  - increase blood supply/oxygen, to skeletal muscle for physical action
  - increase oxygen to brain for rapid response planning

Up to 2 marks for accurate detail of the effects of adrenaline on the body eg outline of two different effects, or detailed account of one effect. 2 further marks for an account of the role of adrenaline in the fight or flight response ie providing a context for the various effects of adrenaline on the body (eg last two bullets).

7 Discuss how knowledge of hemispheric lateralisation and language centres in the brain has helped our understanding of cases such as Robert's. Refer to Robert's case in your answer. **[16 marks]**

**Marks for this question: AO1 = 6, AO2 = 4 and AO3 = 6**

Level	Marks	Description
4	13–16	Knowledge of hemispheric lateralisation and language centres in the brain is accurate and generally well detailed. Discussion is thorough with effective reference to cases of aphasia. Answer is clear, coherent and focused. Specialist terminology is used effectively. Minor detail and/or expansion of argument sometimes lacking.
3	9–12	Knowledge of hemispheric lateralisation and language centres in the brain is evident. There are occasional inaccuracies. Discussion is apparent and reference to cases of aphasia is mostly effective. The answer is mostly clear and organised. Specialist terminology mostly used effectively. Lacks focus in places.
2	5–8	Some knowledge of hemispheric lateralisation and language centres in the brain is present. Focus is mainly on description. Any discussion and reference to cases of aphasia is only partly effective. The answer lacks clarity, accuracy and organisation in places. Specialist terminology used inappropriately on occasions.
1	1–4	Knowledge of biological explanations of offending behaviour is limited. Discussion is limited, poorly focused or absent. The answer as a whole lacks clarity, has many inaccuracies and is poorly organised. Specialist terminology either absent or inappropriately used.
	0	No relevant content.

**Possible content**

- Systematic research from Wernicke and Broca onwards has demonstrated that in most people language centres are lateralised to the left hemisphere
- Wernicke's area seems to be responsible for the interpretation of speech – damage leads to receptive or sensory aphasia
- Broca's area was thought to be responsible for the production of speech this is now thought to involve a wider network than just Broca's area – damage leads to production (expressive) or motor aphasia

**Possible application**

- The presence of a right sided paralysis confirms that in cases such as Robert's there is lateralised damage to the left hemisphere
- Robert, can understand speech so we conclude that he does not have Wernicke's, receptive, aphasia; caused by damage to Wernicke's area in the left hemisphere.
- Robert cannot produce speech so we conclude that Broca's area has been damaged leading to Broca's, production or expressive aphasia.

**08** The human female menstrual cycle is an example of **one** type of biological rhythm; it is called a: **[1 mark]**

Marks for this question: AO1 = 1

B

**09** Outline the structures and processes involved in synaptic transmission. **[6 marks]**

Marks for this question: AO1 = 6

Level	Marks	Description
3	5–6	Knowledge of both structures and processes involved in synaptic transmission, including reference to <b>both</b> presynaptic and postsynaptic processes, is generally accurate and mostly well detailed. The answer is clear and coherent. Specialist terminology is used effectively.
2	3–4	Knowledge of both the structures and processes involved in synaptic transmission is evident. Focus is on pre <b>or</b> postsynaptic processes. There are some inaccuracies. There is some appropriate use of specialist terminology.
1	1–2	Knowledge of structures and/or processes involved in synaptic transmission is limited and lacks detail. There are inaccuracies. Specialist terminology is either absent or inappropriately used.
	0	No relevant content.

**Content:** the synaptic cleft; pre and postsynaptic membranes; postsynaptic receptor sites, neurotransmitters in vesicles in the presynaptic terminal, release of neurotransmitters into the synaptic cleft when stimulated by nerve impulses (action potentials) arriving at the presynaptic terminal, combination of neurotransmitters with postsynaptic receptors; postsynaptic effects either excitatory (depolarisation) or inhibitory (hyperpolarisation).

Diagrams can describe the structure effectively but text is necessary to explain the processes.

**10** Split brain patients show unusual behaviour when tested in experiments. Briefly explain how unusual behaviour in split brain patients could be tested in an experiment. **[2 marks]**

**Marks for this question: AO2 = 2**

**2 marks** for a clear, brief explanation including detail of an appropriate experimental procedure and what patients would be required to do.

**1 mark** for a vague explanation which has some detail about an appropriate experimental procedure and what patients would be required to do.

**Possible suggestions:**

- plausible experimental situation/set-up – eg split visual field, dichotic listening
- plausible stimulus – visual, faces, words, auditory, digits, music etc
- plausible task for patient – verbal or visuospatial response, eg drawing, matching etc.

**11** Briefly evaluate research using split brain patients to investigate hemispheric lateralisation of function. **[4 marks]**

**Marks for this question: AO3 = 4**

Level	Marks	Description
2	3–4	Evaluation is relevant and well explained. Answer focuses on the usefulness of split brain research for the study of hemispheric lateralisation. The answer is generally coherent with effective use of terminology.
1	1–2	Evaluation is relevant although there is limited explanation and/or limited focus on the purpose of the research. Specialist terminology is not always used appropriately. Award one mark for answers consisting of a single point briefly stated or muddled.
	0	No relevant content.

**Possible evaluation points:**

- the disconnection between the hemispheres was greater in some patients than others
- some patients had experienced drug therapy for much longer than others
- the comparison groups were not considered to be valid as they were often people with no history of epileptic seizures
- the data were artificially produced as in real life a severed corpus callosum can be compensated for by the unrestricted use of two eyes
- the research has added to the unity of consciousness debate
- research relates to small sample sizes.

Credit other relevant evaluation points.