

Brain, Behaviour, and Cognition (BBC)

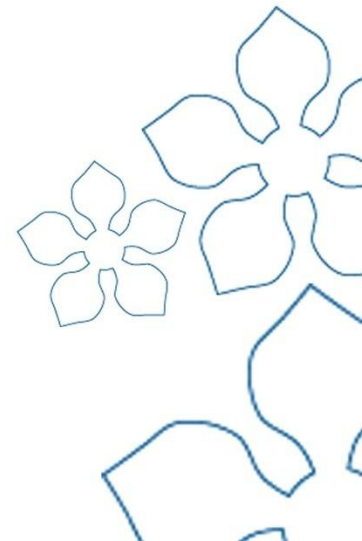
M5X00908

Revision and Exam Preparation

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Biological Exam

- 1 x TWO hour exam (50% of overall module mark)
 - Exam is divided in to three Sections:
 - Section A: Answer 2 Qs from 6 (Each Q is worth 5 marks)
 - Total section marks = 10
 - Section B: Answer 2 Qs from 6 (Each Q is worth 10 marks)
 - Total section marks = 20
 - Section C: Answer 2 Qs from 6 (Each Q is worth 35 marks)
 - Total section marks = 70
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Biological Exam

- Section A:
 - Short answers: brief (a few sentences) or listing.
 - Section B:
 - Medium answers: A solid couple of paragraphs - describing, explaining, comparing, etc.
 - Section C:
 - Long essay-style answers: should bring in critical discussion, evaluation, theories, empirical research studies, etc.
 - You are expected to write grammatically correct paragraphs. Therefore, you will need to read further than the lecture slides for your answers, as these often provide only bullet points/phrases/words as memory aids.
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Biological Exam

- Please note the information provided on the slides below are of topic areas and NOT questions.
 - Whilst a question may relate to an area, it will focus on a specific element and NOT be a 'write everything about it'.
 - So you must prepare thoroughly for the exam.
 - Use of lecture slides, your notes from lectures, and importantly the **Pinel** textbook are a must for preparation.
 - Use of lecture slides alone for revision is NOT going to be sufficient – especially for the Section C questions where you will be expected to include relevant evidence from empirical research in your answers.
 - You must demonstrate your wider reading to do well.
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Biological Exam - Revision Focus

- Section A (answer 2 out of 6):
 1. Features of a neuron
 2. The Peripheral Nervous System
 3. Neurotransmitters
 4. The Limbic System
 5. Paradigms of animal behaviour
 6. Brain damage



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Biological Exam - Revision Focus

- Section B (answer 2 out of 6):
 1. Techniques to View neurons
 2. Prosopagnosia
 3. Vision of edges
 4. Sound and auditory processing
 5. Compare & contrast 2 methods to study the brain
 6. A type of research method on a rat



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Biological Exam - Revision Focus

- Section C (answer 2 out of 6):
 1. Divisions of the brain
 2. Axons and synapses
 3. Neurodevelopmental disorders
 4. Hippocampus and memory
 5. Animal models
 6. Schizophrenia



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Cognitive Exam

- 1 x ONE hour exam (25% of overall module mark).
- Answer ONE essay question from a choice of four.

Questions will be based on lecture topics BUT you will need to have done additional reading and include relevant studies to support your arguments.

Questions will ask you to:

“Critically discuss, compare and contrast, provide evidence”



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Cognitive Exam

- Think about which topic the question relates to:
 - E.g., Memory; Judgement & Decision Making; Perception, Categorisation
 - Take time planning the structure of your answer.
 - Think about what the question is asking you to do:
 - E.g., Critically discuss, Compare and contrast, Provide evidence.
 - Be precise, specific, detailed and clear in your answers
 - Always use empirical evidence:
 - Is the evidence sufficient?
 - Examine alternative viewpoints fairly
 - Assess the quality of your evidence: Use the best evidence
 - Link pieces of research together.
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Cognitive Exam

- Regardless of the topic area, your mark will depend on the type of answer you give:

Strong Answer

Provide a detailed description of the theory/model or topic in question.

Explain the meaning of any specific terms.

Goes beyond the lecture notes and shows evidence of wider reading.

Include empirical evidence and discuss the studies mentioned.

Provide relevant integration, critical analysis and evaluation of arguments.

Identify strengths and weaknesses associated with each theory based on relevant studies and would clearly explain what the findings mean for theory.

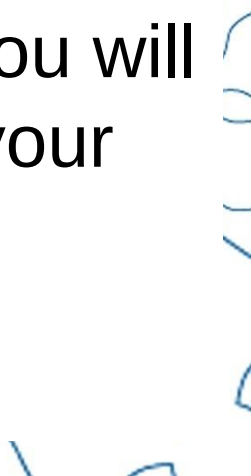
Consider thoughts on wider implications.



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Cognitive Exam

- The lecture slides serve only as a reminder of the lecture content and useful reading.
 - They do not substitute for your own lecture notes, nor are they sufficiently comprehensive to substitute for wider reading.
 - For the exam you are expected to write grammatically correct paragraphs. Therefore, you will need to read further than the lecture slides for your answers, as these often provide only bullet points/phrases/words as memory aids.
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Cognitive Exam

- Where to find additional empirical evidence:
 - You will need to use the core text for this module:
 - Eysenck & Keane. Cognitive Psychology
 - If there is a particular citation not in the core textbook, then you can use the library search to find the particular journal article.
 - Also, make use of the Eysenck and Keane Cognitive Psychology Companion Website at:
www.psypress.com/cw/eysenck

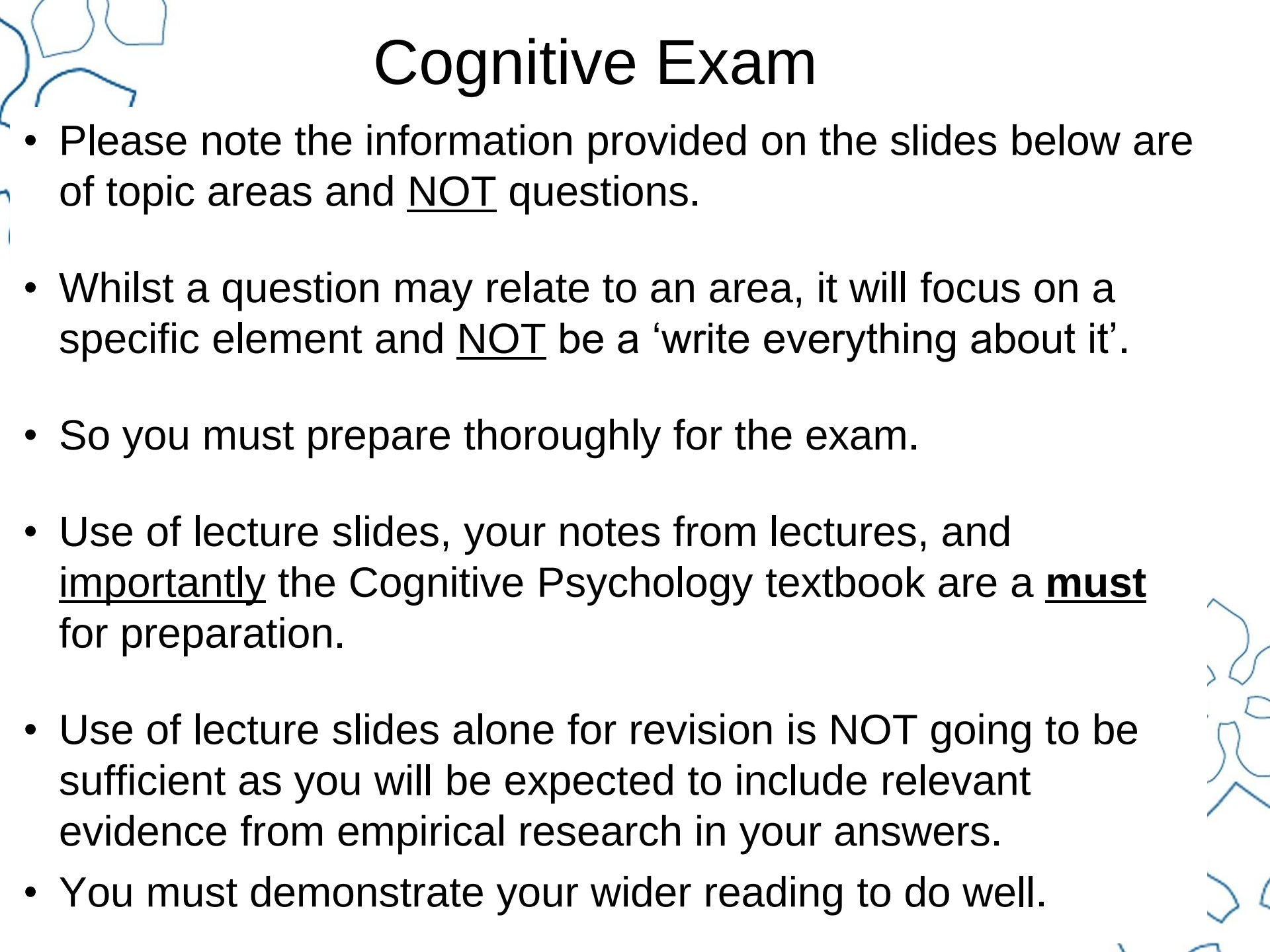


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Module Overview

- Lecture 1: Intro (no seminar)
 - Lecture 2: Language (no seminar as language was focus of essay)
 - Lecture 3: Perception + seminar on top-down vs. bottom-up processing
 - Lecture 4: Attention + seminar on FIT
 - Lecture 5: STM + seminar on WM
 - Lecture 6: LTM + seminar on Henke's Processing-based vs. traditional system-based account.
 - Lecture 7: Memory: context, errors and influences + seminar on when memory fails
 - Lecture 8: Concepts, Categorisation, & Schema + seminar on prototype vs. exemplar models of categorisation.
 - Lecture 9: Judgement & Decision Making + seminar on biases and heuristics.
 - Lecture 10: Revision
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Cognitive Exam

- Please note the information provided on the slides below are of topic areas and NOT questions.
- Whilst a question may relate to an area, it will focus on a specific element and NOT be a 'write everything about it'.
- So you must prepare thoroughly for the exam.
- Use of lecture slides, your notes from lectures, and importantly the Cognitive Psychology textbook are a **must** for preparation.
- Use of lecture slides alone for revision is NOT going to be sufficient as you will be expected to include relevant evidence from empirical research in your answers.
- You must demonstrate your wider reading to do well.

Cognitive Revision Focus

• Perception

- Top-down vs. bottom-up perception
- Problems of visual perception
- **Cognitive theories of perception:**
 - Concept-driven (Gregory); Ecological Approach (Gibson); Marr's computational theory; Biederman's Recognition-by-components; Viewpoint dependent/invariant theories.
- Evidence from cognitive neuropsychology (e.g., visual agnosia); theories/models of face recognition.

Description of any theories would need to draw upon empirical evidence to support or contradict the theories.

SEMINAR: Gregory's top-down Concept-driven vs. Gibson's bottom-up Data-driven approach + Seminar Reading on Moodle

Cognitive Revision

- **LTM:** Structure and systems: Can depict different types of LTM
 - Episodic VS. semantic; procedural VS. declarative, etc.
 - And correlated search for brain regions involved
 - **Lots** of evidence from brain-damaged patients – especially those with amnesia (e.g., HM) and semantic dementia.
 - Also, type of forgetting used as evidence for depicting different types of LTM.
 - More recent emphasis on **processing**-based accounts.
 - Henke's (2010) processing-based model
 - Use of consciousness as criteria for distinguishing types of LTM
- Description of models would need to draw upon empirical evidence to support or contradict the theories.
- **SEMINAR:** Worksheet on processing vs. systems based accounts + Seminar reading on Moodle.



Cognitive Revision

- **Judgement and Decision Making**
 - How do we make judgements and decisions?
 - Are we rational?
 - Lots of work conducted by Kahneman & Tversky.
 - Theories to explain biases:
 - E.g., representative and availability heuristics, support theory, normative models, expected utility, loss aversion, prospect theory, framing, context, justification, anticipated regret, dual-process models, Anchoring and adjusting.
 - Lots of references provided on 2 slides at the end of the lecture.
 - **SEMINAR:** Judgement & decision making examples, with designated reading on Moodle.
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Cognitive Revision

- **Concepts, Categorisation, and Schema:**
 - Organisation of memory: Representation of stored knowledge and Retrieval of that knowledge for use
 - Semantic information holds large amount of our useful knowledge about world
 - Memory systems to cope with that knowledge
 - Schema that represent associated information:
 - Efficient storing and retrieving
 - Enhancement of performance using memory
 - Categorisation and concepts
 - Prototypes and Exemplar based theories
 - Stored representations retrieve large amounts of information.
- **SEMINAR:** How do we categorise objects:
Prototypes vs. Exemplars theory + seminar reading

Cognitive Revision

- Example on how to present theory and empirical research:

“The xxx theory proposed by xxx and xxx (xxx) in order to explain xxx states that xxx. The reason for this suggestion was due to the idea that xxx. Support for this theory comes from experimental research conducted by xxx and xxx (xxx). In their study participants were required to xxx. They found that xxx. Therefore, they concluded that xxx. This research finds supports for the xxx theory because it shows that xxx. However, xxx and xxx (xxx) suggest that this may not be the case. In their study they asked participants to xxx. They found that xxx. They concluded that xxx. Therefore, in contrast to xxx and xxx (xxx), the research by xxx and xxx (xxx) contradicts the ideas put forward by the xxx theory because xxx.

An alternative theory to therefore explain xxx has subsequently been put forward by xxx(xxx). This theory states that xxx and deals with the criticisms put forward against the xxx theory by suggesting that xxx.....”. And so on.

General Exam Points

- **ALL** of your answers should be written in your examination booklet, **NOT** on the question paper.
- Please clearly indicate on the front of your examination booklet the question number of each question attempted.
- **Remember** which exam you are sitting: Do not answer a Biological exam question from a Cognitive perspective.
- **HOWEVER:** With the Cognitive exam it is likely that some biological elements will need to be discussed and it would be acceptable to include biologically based evidence that supports/contradicts cognitive theories.
- Take your time to read through all the questions fully.

ESSENTIAL READING!!!!

- Pinel, J. P. J. *Biopsychology*. Pearson.
- Eysenck, M. W., & Keane, M. T. *Cognitive Psychology: A student's handbook*. Psychology Press.
- Read-up and use the studies presented in these books for empirical evidence and as evaluation to back up or contradict any theories you mention or points that you make.

Other useful Books

- Gazzaniga, M. S., Ivry, R. B., & Mangun, G. R. (2009). *Cognitive Neuroscience: The Biology of the Mind* (3rd Ed.). W. W .Norton: New York: London.
- Wickens, A. (2009). *Introduction to Biopsychology* (3rd Ed.). Pearson: Prentice Hall.

Moodle

- Go on to Moodle:
 - Read the lecture slides
 - When you see a reference go and look it up
 - Also, within some of the lectures on Moodle there will be a slide of additional references – please look these up and use any studies from this reference list slide to back up your arguments when answering questions.
- Past exam papers for both Biological and Cognitive are available on Moodle. In some cases the indicative answers to those past exam papers are also provided.



And Finally...

ALL THE BEST FOR THE EXAMS!!!



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