PRIFYSGOL ABERYSTWYTH UNIVERSITY

SEMESTER ONE EXAMINATIONS 2024

DEPARTMENT OF PSYCHOLOGY

PS32120: BEHAVIOURAL NEUROSCIENCE

Time allowed: **TWO HOURS**

Instructions to students:

- This is a seen exam. Questions will be available two weeks before the exam.

Part A (20%):

Answer ALL TEN (10) short answer questions

- Each question carries equal marks [2 potential marks for each question].
- It is suggested that you write approximately two (2) to three (3) sentences to answer each question.

Part B (80%):

Answer One (1) Questions from choice of Three (3)

- It is recommended that you provide relevant citations/references in your answers (a references section is not required)
- You may use the exam prompt sheet to help answer this section. This sheet must be attached at the end of the exam to the answer sheet you have completed.

MAE MODD I FYFYRWYR GYFLWYNO ATEBION I'R PAPUR HWN NAILL AI YN Y GYMRAEG NEU'R SAESNEG

STUDENTS MAY SUBMIT ANSWERS TO THIS PAPER IN WELSH OR ENGLISH

Once seated, students may complete the front cover of the answer book(s) and the attendance slip ONLY.

DO NOT TURN THE EXAMINATION QUESTION PAPER OVER UNTIL INSTRUCTED TO DO SO.

Part A: Short answer questions. Answer All Questions

1. Compare the general functions of the three types of glial cell in the brain.

2. Identify two of the four lobes of the cerebral cortex, and briefly describe the major functions associated with each one.

3. Briefly describe the Amyloid cascade hypothesis processes and components.

4. Concisely contrast the functions of the supplemental motor area with that of the premotor area

5. Differentiate the three components of pain.

6. What forms of learning and memory stay intact or are impaired if the hippocampus is damaged?

7. Summarize one pharmacological and one other (not psychological) treatment to diminish the symptoms of depression.

8. What affect does too much glucocorticoids have on bodily systems or structures in the context of stress? (List two known issues).

9. Contrast the roles of the lateral hypothalamus (LH) and ventromedial hypothalamus (VMH) for the modulation of eating.

10. Describe two environmental risk factors for the development of schizophrenia. How could these risk factors be prevented or lessened?

Part B: Essay style question - Only answer One (1) Question [80%]

1. Discuss the neurobiological mechanisms of appetite and how they contribute to the contrasting disorders of anorexia nervosa and obesity. Attempt to explain from a neurobiological standpoint what might be happening in terms of molecules that influence appetite and palatability. Discuss other potential contributory factors to these cases.

2. Compare and contrast the neuropathology and psychological characteristics of someone who is experiencing healthy ageing with that of someone who is presenting characteristics of cognitive decline or Alzheimer's dementia.

3. An athlete waits in the blocks at the start a race, they may feel their heart starting to pound, their breathing quickens, their muscles tense. Then, at the sound of the starting gun, they suddenly burst into rapid movement. Describe and explain the contributions of both the autonomic and somatic nervous systems to these events.

END OF PAPER