IB Psychology - New Syllabus (First Assessment 2027)

Paper 1 Model Answers

Section A

Biological Approach

1. Describe the process of neuroplasticity and the role of environmental factors on brain development with reference to **one** relevant example. [4]

Neuroplasticity is the brain's ability to change and reorganise itself by forming new neural connections. This process allows the brain to adapt to environmental demands, such as learning a new skill or recovering from injury. Environmental factors like stimulation, training, or experience play a central role in shaping how these neural networks develop over time.

One relevant example of neuroplasticity is Maguire et al.'s (2000) study of London taxi drivers. Using brain scans, they found that taxi drivers had significantly larger posterior hippocampi compared to control participants. This brain region is linked to spatial memory, and the enlargement was associated with the amount of time spent navigating the city.

This example demonstrates how environmental factors can directly influence brain development. The demands of learning and recalling London's complex routes strengthened neural pathways in the hippocampus, showing that repeated environmental experiences—such as daily navigation—drive structural changes in the brain through neuroplasticity.

Cognitive Approach

2. Explain the process of operant conditioning and its role in **one** behaviour. [4]

Operant conditioning is a type of learning where behaviour is shaped by the consequences that follow it. When a behaviour is followed by reinforcement, it becomes more likely to be repeated, while punishment decreases the chance of the behaviour recurring. Positive reinforcement means adding a pleasant stimulus after a behaviour, whereas negative reinforcement involves removing something unpleasant.

A clear example is a student who studies regularly and then receives praise from their teacher and a high grade on the exam. This is an example of positive reinforcement, because something desirable—the praise and reward—is added after the behaviour. The pleasant consequences encourage the student to

continue the behaviour of studying. Over time, the link between studying and receiving positive outcomes strengthens, making the behaviour more consistent.

This demonstrates how operant conditioning explains human behaviour. The example shows that consequences directly influence behaviour: when rewards are consistently given, the student is motivated to maintain or even increase their studying. This highlights the important role of positive reinforcement in shaping motivation, learning, and achievement.

Section B

Human Development

Sofia is an IB Psychology student who moves from Spain to Japan for her university studies. She notices that many of her classmates have very different moral values. For example, they place greater emphasis on respect for authority and group harmony, while in Spain she was used to a stronger focus on individual rights and personal freedom. Sofia begins to wonder why moral values differ so much across cultures. She develops a hypothesis that these differences are the result of sociocultural factors, such as cultural traditions, social norms, and upbringing.

Explain how Sofia's hypothesis can be tested using an emic approach. [6]

The emic approach is a way of studying behaviour from within a specific culture, focusing on how members of that culture themselves interpret and explain their behaviour. Instead of applying universal theories developed elsewhere (an etic approach), emic research values insider perspectives, cultural meanings, and context. Methods often include qualitative tools such as interviews, focus groups, and participant observation, which allow researchers to gain detailed accounts of cultural practices and beliefs.

In the scenario, Sofia observed moral differences after moving from Spain to Japan. For example, she noticed that her Japanese classmates valued respect for authority and group harmony, whereas in Spain she was more familiar with individual rights and personal freedom. Her hypothesis is that these differences are shaped by sociocultural factors like cultural traditions, family upbringing, and educational systems. An emic study could test this by asking Japanese participants how they themselves understand morality, what they consider right or wrong, and why. For instance, researchers could conduct semi-structured interviews in Japan to explore moral reasoning in depth, ensuring that the concepts come from the participants rather than from the researcher's cultural background.

This demonstrates how the emic approach could test Sofia's hypothesis. By collecting data that reflects the lived experiences of Japanese participants, researchers would uncover how sociocultural factors such as collectivism, respect for hierarchy, and harmony guide moral values. A similar emic study in Spain could then be compared, showing how sociocultural differences shape different moral frameworks. This supports the claim that moral values are not universal but are strongly influenced by the cultural environment in which people grow up.

Health and Well-being

Daniel is a university student who notices that he spends several hours a day on social media, even when he knows it interferes with his studies and sleep. He finds it hard to stop checking notifications, and he feels a strong urge to go online when he is bored or stressed. Daniel thinks he might be experiencing a form of social media addiction.

Explain Daniel's behaviour using the role of chemical messengers. [6]

Chemical messengers such as neurotransmitters play an important role in addictive behaviours. Dopamine is especially linked to the brain's reward system. When dopamine is released in areas like the nucleus accumbens, people experience feelings of pleasure and motivation. Behaviours that trigger dopamine release are likely to be repeated, which can contribute to habit formation and addiction.

In the scenario, Daniel spends hours on social media and feels a strong urge to check notifications. Each time he receives a like or message, dopamine is released, creating a rewarding sensation. This acts as positive reinforcement, making him want to repeat the behaviour. Over time, the repeated release of dopamine strengthens the neural pathways associated with social media use, making it difficult for Daniel to resist.

This example shows how chemical messengers can explain Daniel's social media addiction. Dopamine acts as the driver of his compulsive checking behaviour because it rewards him for engaging with social media. The repeated reinforcement from notifications and interactions helps explain why he keeps using social media even when it interferes with sleep and studying. This demonstrates how chemical messengers underpin addictive behaviours by linking pleasure to specific actions.

Section C

In the context of human relationships, to what extent is responsibility a key concept when studying one or more strategies to improve interpersonal relationships?' [15]

One strategy to improve interpersonal relationships is relationship counselling, which often includes structured communication training. In these interventions, couples are taught techniques such as active listening, expressing feelings without blame, and constructive problem-solving. The aim is to strengthen satisfaction and reduce conflict by improving how partners interact. Responsibility is a key concept in understanding how and why such strategies work, because positive change requires both individuals to take ownership of their behaviour. Without responsibility, even well-designed strategies may fail.

Responsibility is important at the individual level because relationship change depends on both partners' willingness to apply what they learn. For example, if only one partner takes responsibility for practising active listening, while the other continues defensive or hostile communication, the benefits of the strategy will be minimal. By contrast, when both partners take responsibility for identifying their role in

conflicts and commit to behavioural change, the strategy has a stronger chance of success. This shows that responsibility is not just an added feature of interpersonal strategies but is central to their effectiveness.

Responsibility can also be understood at the social level. Cultural norms and expectations influence how responsibility for relationships is distributed. In some societies, responsibility for maintaining harmony may fall disproportionately on women, which may create unequal burdens and limit the impact of counselling strategies. Similarly, in collectivist cultures, responsibility may be seen as shared with extended family members, affecting how strategies are perceived and applied. These examples demonstrate that responsibility is a key concept, but it is shaped by broader sociocultural contexts, not only individual choices.

Research evidence supports this claim. Bodenmann (2005) developed a stress management training programme for couples, where both partners learned techniques for coping with daily stress together. Results showed significant improvements in relationship quality, especially when both partners actively participated and took responsibility for using the strategies. When only one partner engaged, outcomes were weaker. This supports the idea that responsibility is crucial for strategies to work, as shared responsibility strengthens both commitment and effectiveness. Other studies of communication training in couples have shown similar patterns, reinforcing the central role of responsibility.

In conclusion, responsibility is a key concept in understanding strategies to improve interpersonal relationships because outcomes depend heavily on whether individuals take ownership of change. It operates at both the personal level, through individual choices and actions, and at the cultural level, through norms that shape who is expected to take responsibility. However, responsibility is not the only factor. Motivation, cultural attitudes, and the design of the strategy also play important roles. Overall, responsibility should be considered central, but it must be studied alongside these other factors to fully explain why strategies succeed or fail.