**Information Processing- Motor Programmes Questions**

**Open and Closed Loop**

Skilful play within a game relies on effective information processing. According to Adams closed loop theory, two pieces of information called traces are used to control movement

* Name these two traces (1 mark)
* Describe how these two traces are used to produce skilled movement. (3 marks)
* What are the characteristics of an open loop control system? *(2 marks)*
* Explain why an open loop control system is not applicable to all types of skills.

 *(3 marks)*

**Open and Closed Loop Answers**

Skilful play within a game relies on effective information processing. According to Adams closed loop theory, two pieces of information called traces are used to control movement

**Name these two traces (1 mark)**

* Memory trace AND perceptual trace

**Describe how these two traces are used to produce skilled movement. (3 marks)**

* Memory Trace- plan of action/motor programme/ acts as a reference/ standard/ initiates movement
* MT- based on experience/practice/previous performance
* Perceptual Trace- directs/controls current movement
* Learning involves the development of PT though feedback
* Two (MT and PT) are compared
* If they match/correspond- movement continues
* Mismatch produces error corrections (during performance)
* Adjusted memory trace= new motor programme

**What are the characteristics of an open loop control system? (2 marks)**

A. Pre-planned/well learnt movement/without conscious control/stored as memory trace;

B. Once initiated no modification;

C. No feedback during movement/only after movement

D. Very quick/limited time/ballistic movements;

E. Carried out in a stable/predictable environment/closed skills.

**Explain why an open loop control system is not applicable to all types of skills.**

***(3 marks)***

A. Too many stored movements required for memory capacity;

B. Not all environments are predictable or stable;

C. Cannot accommodate new or novel skills;

D. Cannot accommodate flexible movement pattern;

E. Not applicable to open skills;

F. Many skills have time for feedback during performance/allows corrections.