**Question 12 (2 marks)**

During periods of stress an athlete may experience an increase in heart rate and respiratory rate. Identify **two (2)** additional physiological changes an athlete could experience that may affect their performance.

* Increased body temperature, increased sweating/perspiration
* Increased blood pressure
* Increased blood supply to brain, heart, large muscles
* Adrenalin secretion
* Pupil dilation
* Increase in muscle strength
* Increase in muscle tension

**Question 13 (6 marks)**

Bethany is a competent netballer, currently playing in division 2, who would like to be playing in the top division team in her local competition. To achieve this, she will need some goals.

Describe 4 characteristics that goals should have in order to be effective.

* Specific
* Measurable
* Accepted
* Realistic
* Time phased
* Exciting
* Reviewed

Suggest 2 short term goals that Bethany could set for herself.

To play at least 80% of game time for the rest of the season.

Score 80% of her shots when playing GA or GS

**Question 14 (6 marks)**

Earlier this year, former Aquinas College student Logan McDonald made his AFL debut for the Sydney Swans against last year’s preliminary finalist, the Brisbane Lions.

Identify and explain the hypothesis that outlines the relationship between arousal and performance. (3 marks)

The Inverted U hypothesis

Arousal is the amount of physical and psychological ‘readiness’ a person experiences in relation to a task.

* Under-arousal or low arousal levels will negatively affect performance, as the athlete will not be adequately psyched up
* Over-arousal or high arousal will negatively affect performance, as the athlete will be overly stimulated physically and mentally (high muscle tension / lack of concentration)
* Optimal arousal occurs as arousal levels reach an optimal point, allowing for the most positive effects on performance

Identify which state of arousal Logan was likely to be in for the start of the match. (1 mark)

Over-arousal or high arousal will negatively affect performance, as the athlete will be overly stimulated physically and mentally (high muscle tension / lack of concentration)

Explain three factors that have an influence on the optimal level of arousal of an athlete (3 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Age   * Generally older/experienced athletes will be able to manage arousal levels more effectively than younger athletes. Utilising mental strategies to achieve optimal levels of arousal   Activity   * Depending on the sport, arousal levels will differ. Target sports such as golf, archery and darts require less arousal to accurately perform skills, whilst combat sports such as UFC, boxing require very high levels of arousal.   State Anxiety   * An immediate emotional state of fear, tension and increased arousal. Can change several times during performance and varies from player to player.   Trait anxiety   * Relates to the personality of the performers and how they perceive the situation. |  |
| Accept other relevant answers |  |
| **Total** | **3** |

**Question 15 (7 marks)**

A gymnast struggles with pre-competition nerves each time they get ready to perform their floor routine. The impact of stress and nerves negatively affects their physical performance and self-confidence.

Name **two** relevant mental skills strategies which this gymnast could use pre-performance to

1. decrease the physical symptoms of nerves e.g. shaking
2. increase self-confidence prior to performance.
3. For **each** strategy provide a relevant example of how the gymnast could apply this technique. (4 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Name two mental skill strategies for each   * Relaxation for physical symptoms of nerves * Self-talk OR self-imagery to increase confidence | 1  1 |
| Relevant example: relaxation   * Use of Progressive Muscle Relaxation (PMR) – tensing and releasing each muscle at a time to achieve full body relaxation * Breathing exercises – taking slow, low breaths to reduce respiratory rate and calm the body and mind * Meditation – calming the mind through focused concentration techniques * Biofeedback – using electronic instruments that provide the gymnast with auditory or visual feedback to monitor arousal levels.   Relevant example: self-confidence   * Use of positive self-talk – repeating statement such as “I can do this” “I am calm and relaxed” * Use of self-imagery – using mental visualisation using all the senses to create the gymnastics routine in the minds eye. Seeing themselves completing the perfect routine. | 1  1 |
| Accept other relevant answers |  |
| **Total** | **4** |

**Question 16**

Describe the concept of “self-efficacy” in sports psychology using Bandura’s model. Explain how self-efficacy can influence an athlete’s motivation and performance. Provide a sporting example to support your response.

|  |  |
| --- | --- |
| **Description** | **Marks** |
| An individual's belief in his or her capacity to execute behaviours necessary to perform at an optimal level of performance. The change in an individual’s self-confidence as a result of a given situation is referred to as self-efficacy.  Bandura’s model has 4 aspects including vicarious experiences, physiological feedback, performance outcomes and verbal persuasion.  A hockey player may feel more confident playing on synthetic surfaces than on grass. He has high self-efficacy on synthetic pitches and lower self-efficacy when playing on grass. |  |
| Accept other relevant answers |  |
| **Total** | **3** |

**Question 17**

Discuss the role of goal setting. Explain the characteristics of effective goals and how they can enhance athletic performance. Provide a sporting example to illustrate your points

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Goal setting helps to   * focusing attention on important elements of the skill(s) * activating & organising an athlete’s efforts * encouraging perseverance * promoting the development of new learning strategies * refining movements & set plays * contributing towards a positive psychological state   SMARTER goals: |  |
| Accept other relevant answers |  |
| **Total** | **3** |

**Question 18**

Explain the key differences between a short- and long-term goal. Use a sporting example to support your answer.

|  |  |
| --- | --- |
| **Description** | **Marks** |
| **Short-Term Goals:**  Short-term goals are typically set to be achieved within a relatively brief period, often ranging from a few days to a few months. These goals are often milestones or checkpoints that contribute to larger objectives.  A soccer player might set a short-term goal to improve their dribbling skills over the next month. This goal could involve practicing specific dribbling drills daily, getting feedback from a coach, and monitoring their progress through regular assessments.  **Long-Term Goals:**  Long-term goals span a more extended period, generally from several months to years. These goals require sustained effort and may involve a series of short-term goals to reach them.  A long-term goal for the same player might be to become a key player on their national team within the next five years. Achieving this goal would require numerous short-term goals, such as excelling in club matches, participating in training camps, maintaining peak physical fitness, and consistently improving their technical skills. |  |
| Accept other relevant answers |  |
| **Total** |  |

**Question 21**

Describe the practical implications of the inverted U hypothesis for athletes and coaches. Explain how knowledge of the arousal-performance relationship can be applied to optimise performance and manage anxiety in competitive sports.

|  |  |
| --- | --- |
| Description | Marks |
| Identifies relationship:  At low levels of arousal, performance is below best  As arousal increases, so does performance  Arousal will reach an optimal level where performance is at its best  Further increases in arousal will be detrimental to performance (performance decreases) | 1 mark  1 mark  1 mark  1 mark |
| ANY TWO FACTORS (3 marks each)  Identifies: Skill level  Beginners need lower levels of arousal to perform at best  Higher skilled athletes can perform best at moderately high levels of arousal | 1 mark  1 mark  1 mark |
| Identifies: Type of activity  Activities that require more broad attentional focus (usually team sports like volleyball, soccer, basketball) need lower levels of arousal (Or visa versa)  Activities requiring fine motor skills generally benefit from lower levels of arousal (or visa versa) | 1 mark  1 mark  1 mark |
| Identifies: Age  Younger athletes generally need lower levels of arousal to perform at best  Older athletes can perform best at moderately high levels of arousal | 1 mark  1 mark  1 mark |

**SECTION C – EXTENDED ANSWER**

**Question 1 (15 marks)**

The ‘Tour De France’ is an extremely challenging event, both physically and mentally. Riders continually push their bodies to the limit over 21 days. Being able to cope with mental issues plays an important role in the rider’s success. Identify and briefly outline the five mental strategies the rider could use to manage various mental issues and identify a specific example of each strategy which might be utilised by a first time rider of the race.

|  |  |
| --- | --- |
| **Description** | **Marks** |
| 3 marks for each strategy – 1 for identification, 1 for brief outline and 1 for specific example of application  **Goal Setting –** set ideal times for each stage, maybe aim to beat previous best times for each stage, aim to finish in a certain position, or set team goals  **Relaxation techniques -** Riders can use relaxation techniques such as music, breathing techniques to ensure arousal levels remain at optimum levels.  **Imagery -** Riders can use positive imagery to picture themselves finishing the stage well. Improving concentration and ensuring focus on required stage of each race  **Performance Routines** – warming up the same way each day, preparing equipment (clothing, shoes, snacks, water, starting the race each day  **Self -Talk -** Riders can use positive self-talk to motivate themselves. Tell themselves they can do it. Remind themselves of past success.  Select and justify appropriate strategy for first time rider | 1-3  1-3  1-3  1-3  1-3 |
| **Total** | **15** |

**Question 2 (10 marks)**

With reference to the Inverted-U Hypothesis, explain the concept of arousal regulation and discuss the different levels of arousal required for the three sports identified in the pictures below.

|  |  |
| --- | --- |
| Marks | Possible answer |
| 1 mark for arousal level and link to performance (max. 2)  1 mark for regulation (max. 2) | **Arousal regulation**  Arousal levels too high – athlete is too tense/excited/anxious.   * Regulation techniques – Relaxation, Centred breathing (or other suitable example)   Arousal levels too low – athlete is unmotivated/bored/tired.   * Regulation techniques – Imagery, Self-talk (or other suitable example) |
| 1 mark for arousal level (max. 3)  1 mark for reasoning (max. 3) | **Snooker**   * Low levels of arousal required * Use fine motor skills   **Netball**   * Mid-range levels of arousal required * Use combination of gross and fine motor skills; require broad focus of attention   **Weightlifting**   * High levels of arousal required * Use gross motor skills; require a narrow focus of attention |

**Question 3 (10 marks)**

Australian cricket captain Steve Smith recently posted his highest test score of 239 runs against England at the WACA. In that particular innings he batted for over 9 hours before being dismissed.

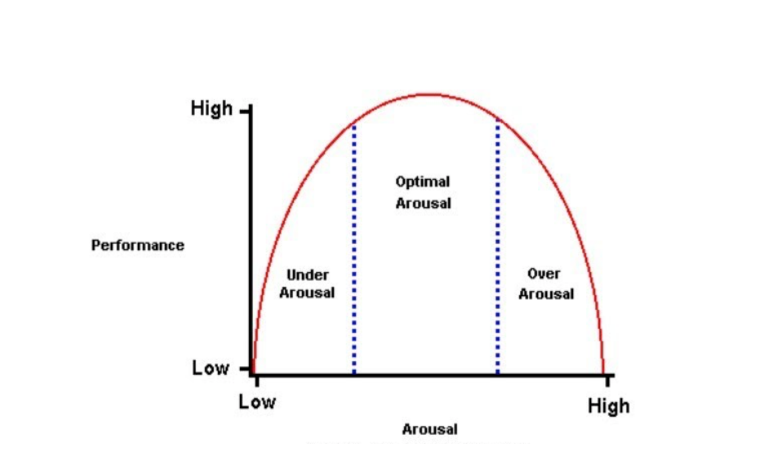
Identify and define **two** mental skills that Smith would have developed throughout his career that would have allowed him to bat so well over such a long period of time and identify and explain **two** mental skill strategies he could have utilised whilst batting and how he would have implemented them throughout his innings to improve his performance.

|  |  |
| --- | --- |
| **Marks** | **Elaboration** |
| *Max 4 marks*  1 mark for identifying  1 mark for explanation | *Mental Skills – choose any 2 from;*   * Self-confidence – The belief in one’s ability to perform or complete a task successfully. Confidence improves performance which leads to further confidence * Concentration – The ability to focus on the important cues while ignoring distractions * Arousal regulation – Level of readiness/stimulation/preparedness in an athlete about to perform or compete. Increased arousal leads to improved performance to a point when too much arousal can impair performance * Motivation – The direction and intensity of one’s effort. Can be intrinsic or extrinsic reasons for performing * Stress management – The ability to manage/minimise the physiological effects of stress and anxiety during competition |
| *Max 6 marks*  1 mark for identifying  1 mark for explanation  1 mark for implementation | *Mental Skill Strategies – choose any 2 from;*   * Imagery – using all senses to create a mental picture of the successful completion of a skill   Implementation – While waiting to bat, Smith could visualise himself playing with perfect technique and scoring a century (or similar)   * Performance routines - a familiar ritual/action/routine that is completed before/during or after performing a skill on every occasion   Implementation – while watching the bowler run in Smith will perform the same routine e.g. tap the bat on the ground three times, look up then raise the bat ready to swing (or similar)   * Self-talk - thinking or saying short phrases to yourself to motivate, focus or pump up   Implementation – After playing a poor shot or losing concentration, Smith would say to himself ‘don’t throw your wicket away’ (or similar)   * Relaxation – performing specific relaxation techniques to reduce tension and manage stress levels   Implementation – Smith could use PMR while at the non-strikers end |

**Question 4 (10 marks)**

Arousal levels during performance are an important component in sporting competitions. High jump competitors often have to wait for long periods of time between jumps, which can affect arousal regulation and performance levels.

Name and explain the relationship between arousal and performance, draw and label a diagram to support your discussion, indicating the point of optimal arousal for the high jumper.



|  |  |
| --- | --- |
| **Description** | **Marks** |
| Names the relationship   * The Inverted U hypothesis | 1 |
| Explanation that includes the following:   * Arousal is the amount of physical and psychological ‘readiness’ a person experiences in relation to a task. * Under-arousal or low arousal levels will negatively affect performance, as the athlete will not be adequately psyched up * Over-arousal or high arousal will negatively affect performance, as the athlete will be overly stimulated physically and mentally (high muscle tension / lack of concentration) * Optimal arousal occurs as arousal levels reach an optimal point, allowing for the most positive effects on performance | 1-4 |
| Diagram   * X axis: Arousal / Y axis: performance * Inverted U * Optimal arousal / performance indicated | 2  1  2 |
| **Total** | **10** |

**Question 5 (10 marks)**

Discuss the impact of psychological factors on injury prevention and rehabilitation in sports. Explain how psychological interventions and strategies can contribute to the recovery process and help athletes return to play successfully. Provide sporting examples to support your response.

SAMPLE RESPONSE

Psychological factors play a significant role in injury prevention and rehabilitation in sports. The mindset and psychological well-being of athletes can influence their risk of injury, their adherence to rehabilitation protocols, and their ability to successfully return to play.

**Stress and Anxiety Management**: High levels of stress and anxiety can increase the risk of injury as they can impair focus, decision-making, and coordination. Psychological interventions such as relaxation techniques can help athletes develop coping mechanisms to reduce stress. For example, a soccer player who experiences performance anxiety may benefit from visualization exercises and deep breathing techniques to manage their anxiety before matches, thereby reducing the likelihood of making errors or being more prone to injury.

**Confidence and Self-Efficacy**: Confidence and self-belief are crucial for injury prevention and successful rehabilitation. Athletes with higher levels of confidence are more likely to adhere to injury prevention protocols, push through challenging rehabilitation exercises, and have a positive outlook during the recovery process. Psychological strategies such as goal setting, positive self-talk, and imagery can enhance an athlete's confidence and self-efficacy. For instance, a gymnast recovering from an ankle injury might use positive self-talk to build confidence and believe in their ability to regain their strength and perform difficult routines again.

**Rehabilitation Protocols**: It can be challenging for athletes to stay motivated and committed to their rehabilitation routines. Psychological strategies such as goal setting, feedback, social support, and motivational interviewing can enhance athletes' adherence to rehabilitation programs. For instance, a runner rehabilitating from a knee injury may set specific and measurable goals, receive regular feedback from their physical therapist, and engage with a supportive running community to maintain their motivation and commitment to the prescribed exercises.

**Question 6 (10 marks)**

Describe the strategies that athletes can use to enhance their self-efficacy belief according to Bandura’s model. Discuss each section of the model and provide practical examples of how athletes can apply these strategies in sports.

SAMPLE RESPONSE

 **Performance outcomes**:

* **Explanation**: These are the most influential sources of self-efficacy. When athletes achieve goals, they gain confidence in their abilities. Each success builds a stronger belief in their capacity to succeed again.
* **Application**: Athletes should set progressively challenging goals. For example, a basketball player aiming to improve shooting accuracy might start with short, consistent practices before advancing to longer-range shots. Each successful attempt helps build confidence for more complex challenges.

 **Vicarious Experiences**:

* **Explanation**: Observing others who are similar in ability succeed can boost self-efficacy by providing a model for success and reinforcing the belief that one can achieve similar outcomes.
* **Application**: Athletes can study the performances of role models or peers who have faced similar challenges. For example, a swimmer might watch videos of elite swimmers to learn techniques and gain inspiration. This observational learning helps athletes envision their own success.

 **Verbal Persuasion**:

* **Explanation**: Positive feedback and encouragement from others can influence self-efficacy. Constructive feedback highlights progress and strengths, reinforcing an athlete’s belief in their abilities.
* **Application**: Coaches and teammates should provide specific, positive feedback and encouragement. For instance, a track athlete might benefit from a coach’s focused praise on improvements in technique, which can boost their confidence in racing.

 **Physiological Feedback**:

* **Explanation**: Athletes' emotional and physiological states affect their self-efficacy. High levels of stress or anxiety can undermine confidence, while effective management of these states can enhance it.
* **Application**: Athletes can use techniques like deep breathing, visualization, or positive self-talk to manage stress. For example, a golfer might use these strategies to stay calm during a crucial putt, which helps maintain focus and confidence.

Combining these strategies can be particularly effective. For instance, a swimmer might use mastery experiences by gradually improving their technique, while also learning from vicarious experiences by studying successful swimmers. Feedback from coaches (verbal persuasion) and managing stress through relaxation techniques (physiological feedback) will further enhance their self-efficacy.